

Fig. 1

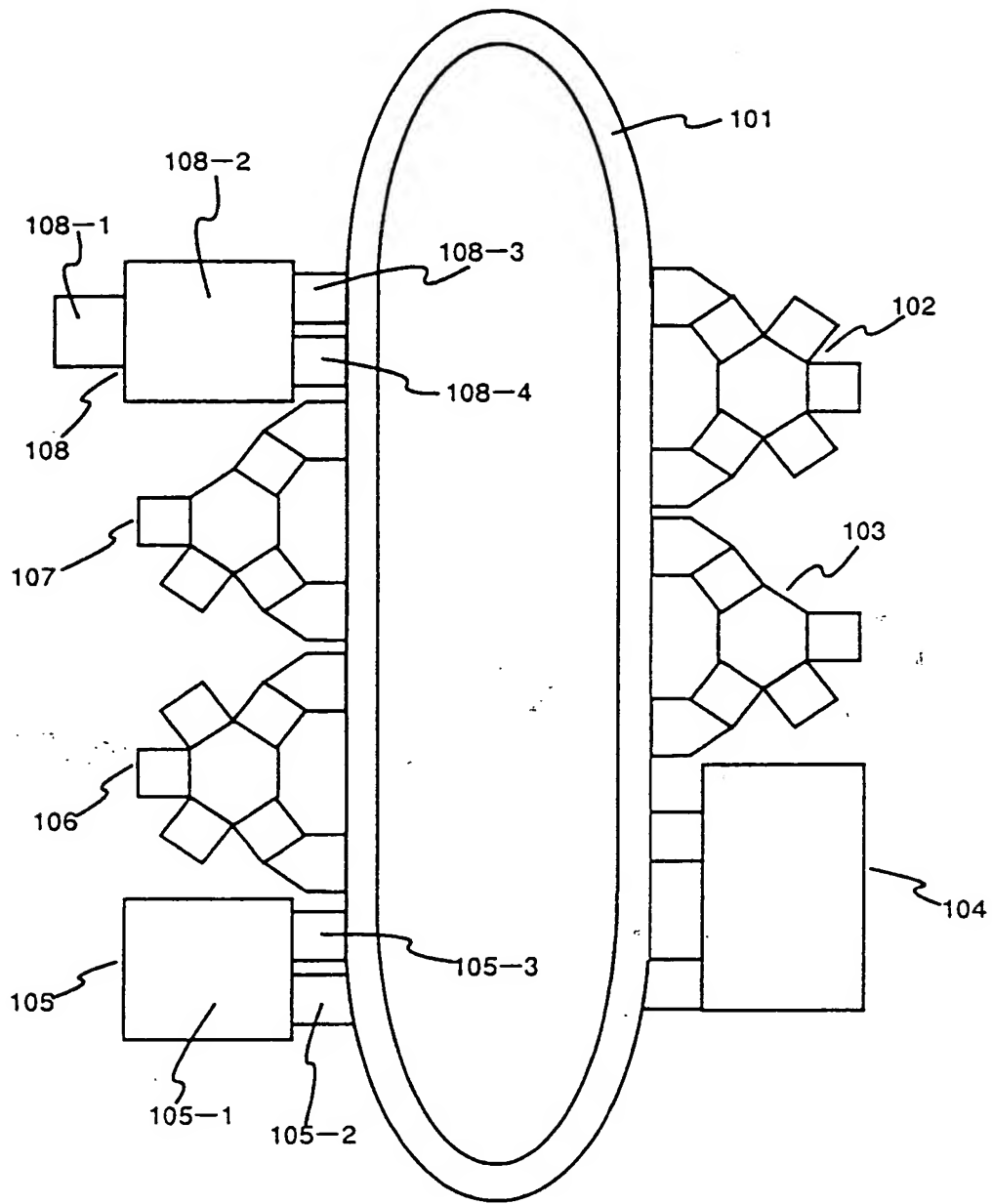


Fig. 2

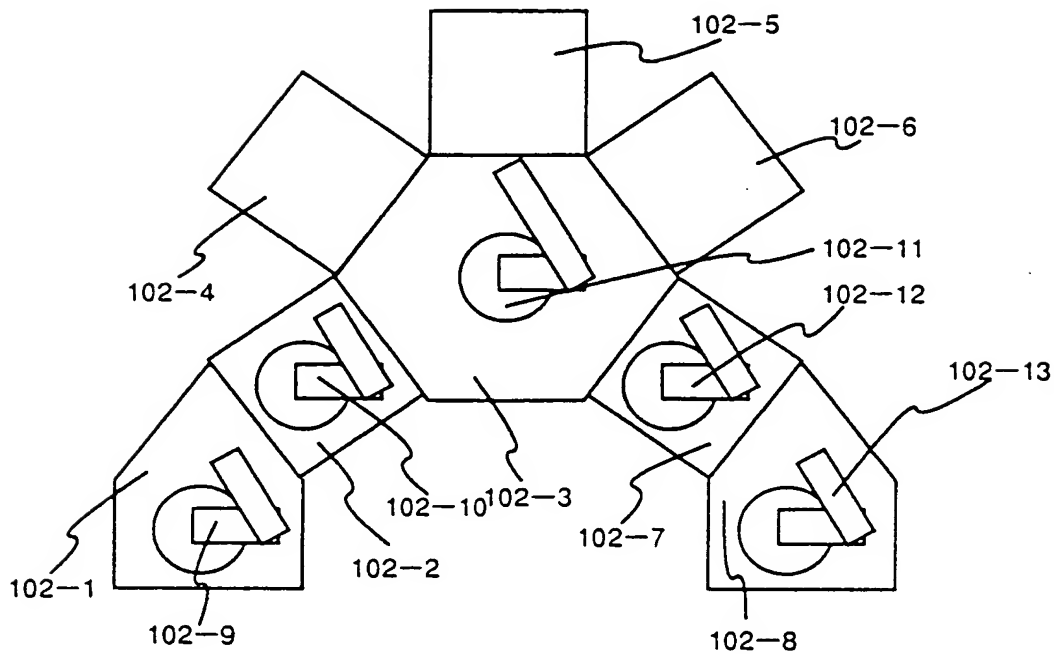


Fig. 3

Details of Transporting and Processing in Metal Films Deposition Apparatus.

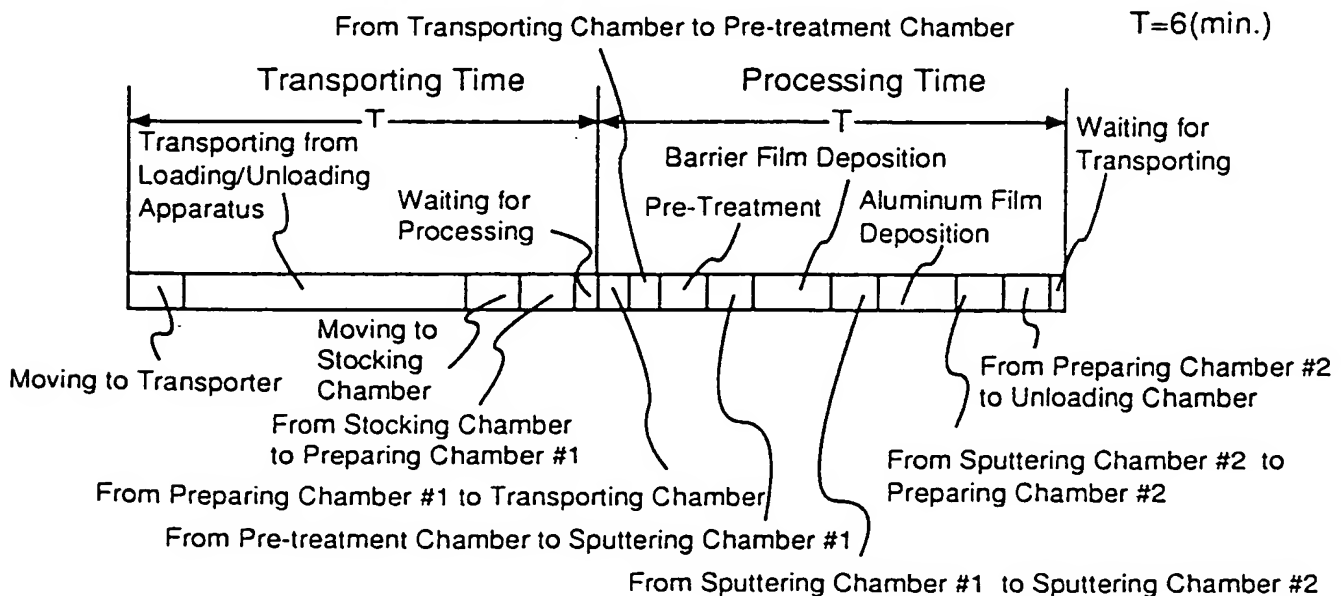


Fig. 4

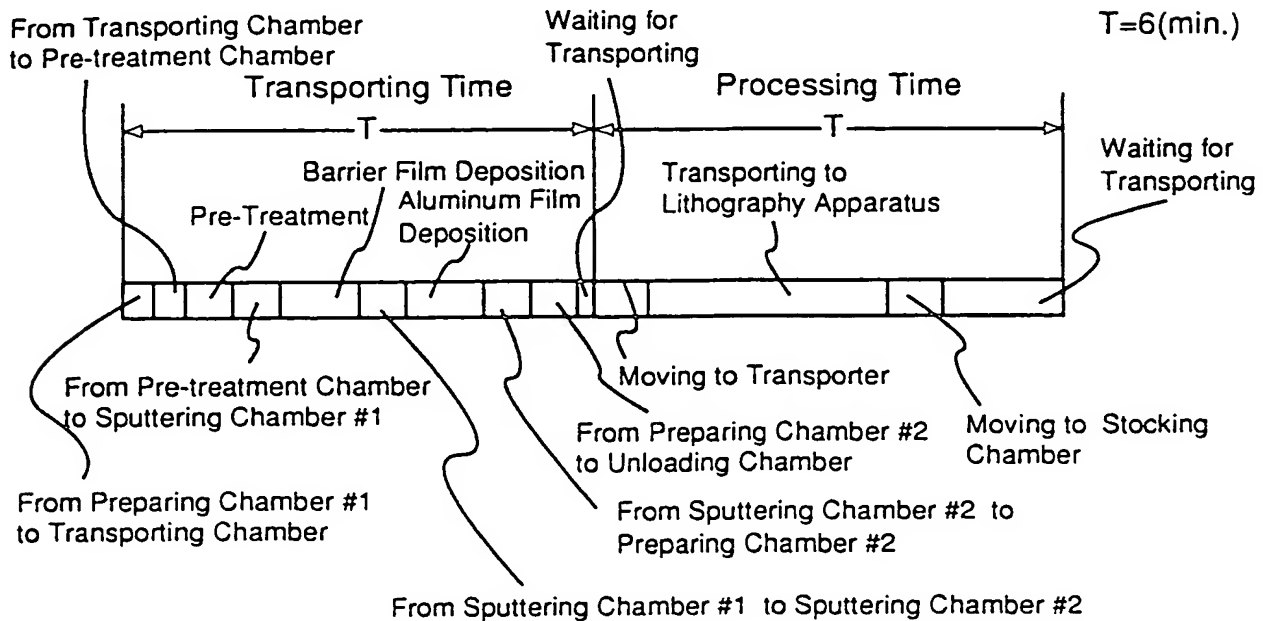
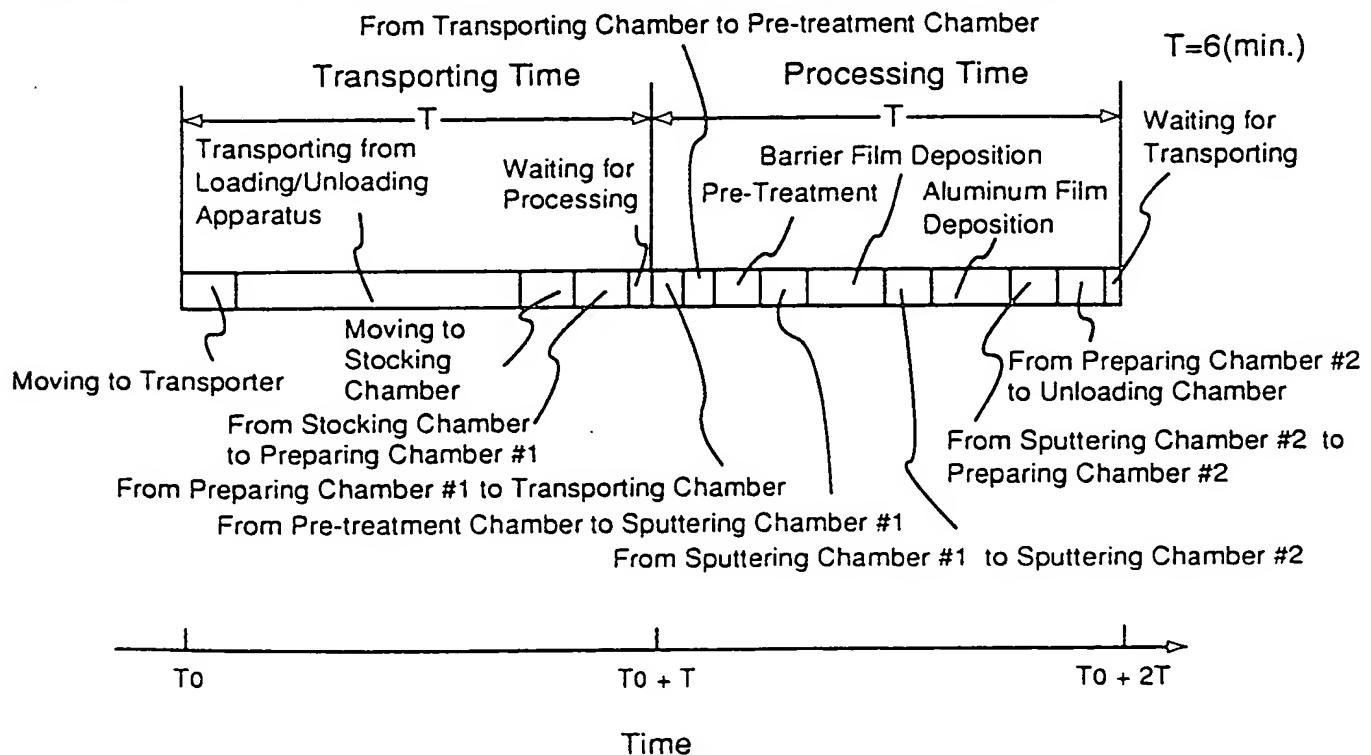
Details of Transporting and Processing of Semiconductor Wafer #1.Details of Transporting and Processing of Semiconductor Wafer #2.

Fig. 5

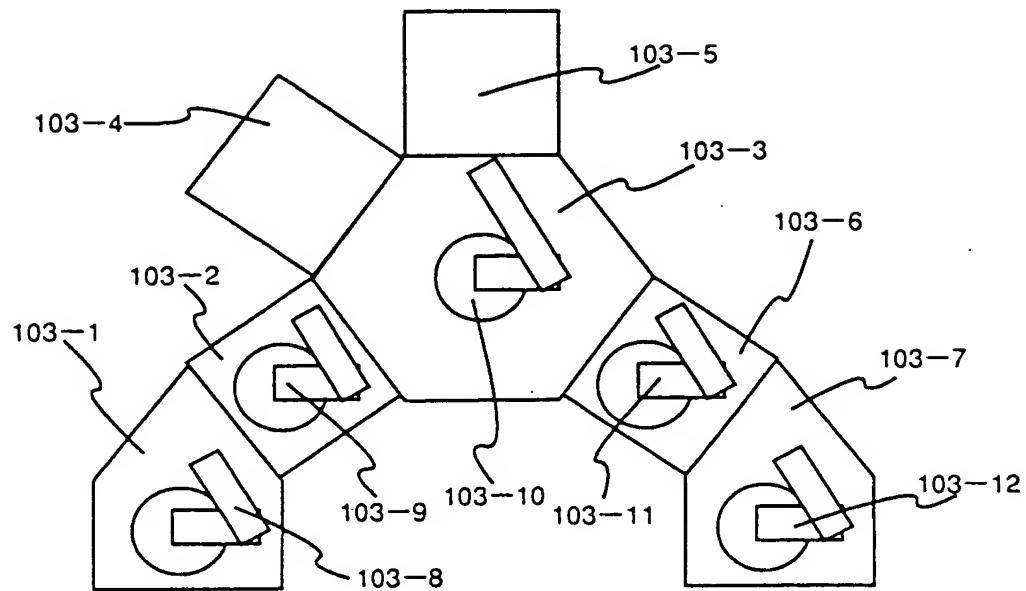


Fig. 6

Details of Transporting and Processing in Insulating Films Deposition Apparatus.

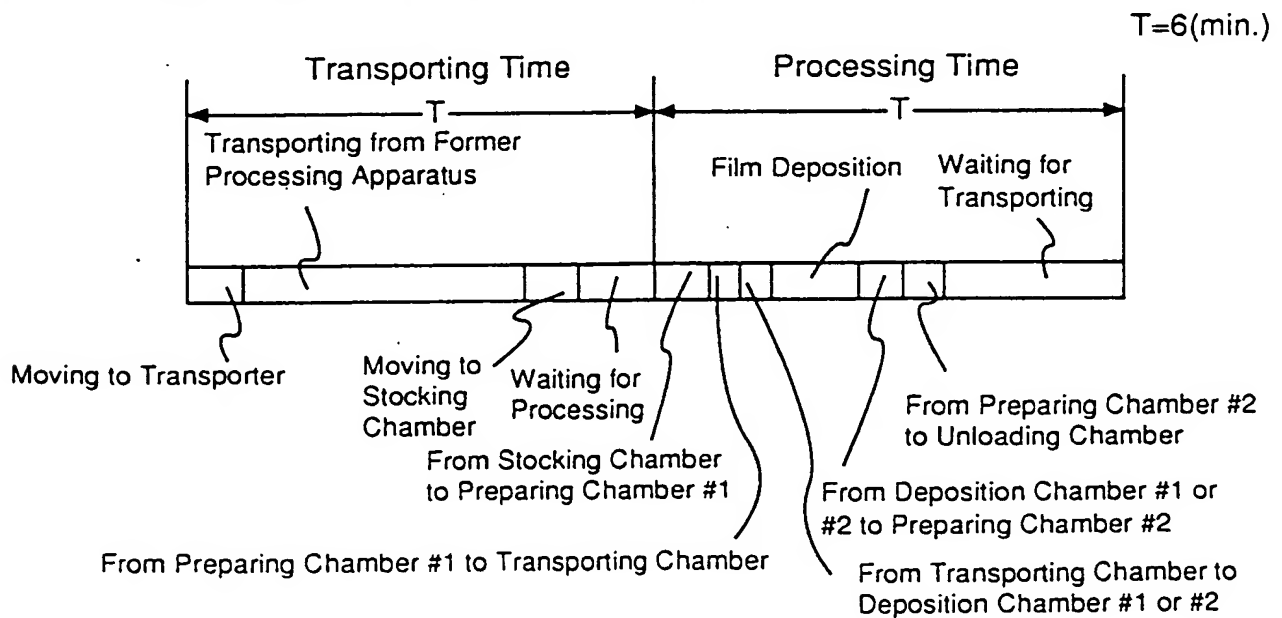


Fig. 7

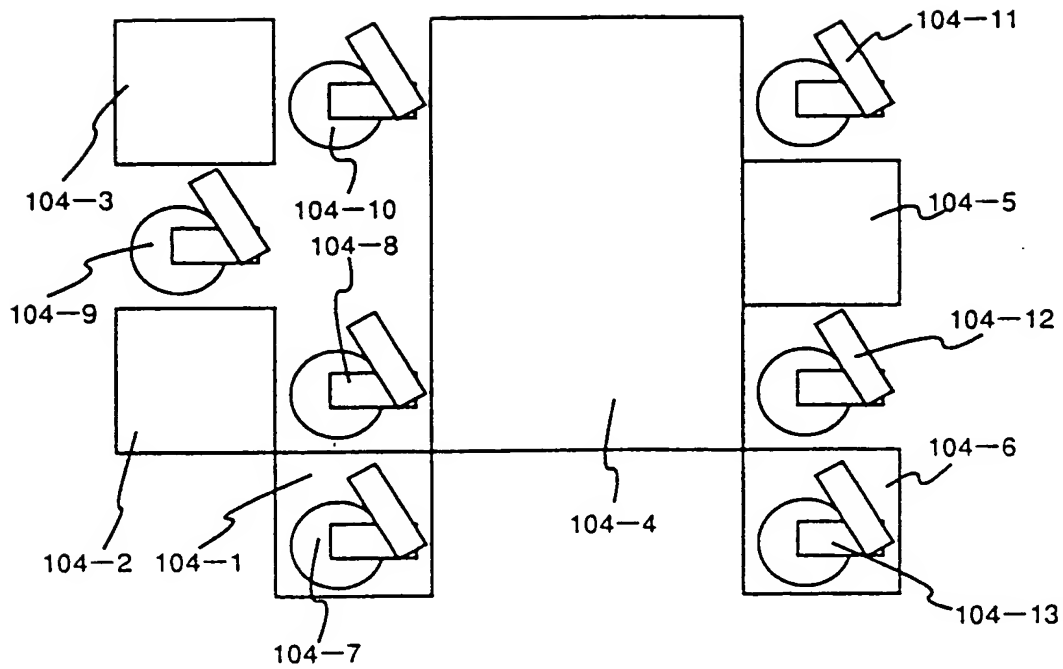


Fig. 8

Details of Transporting and Processing in Lithography Apparatus.

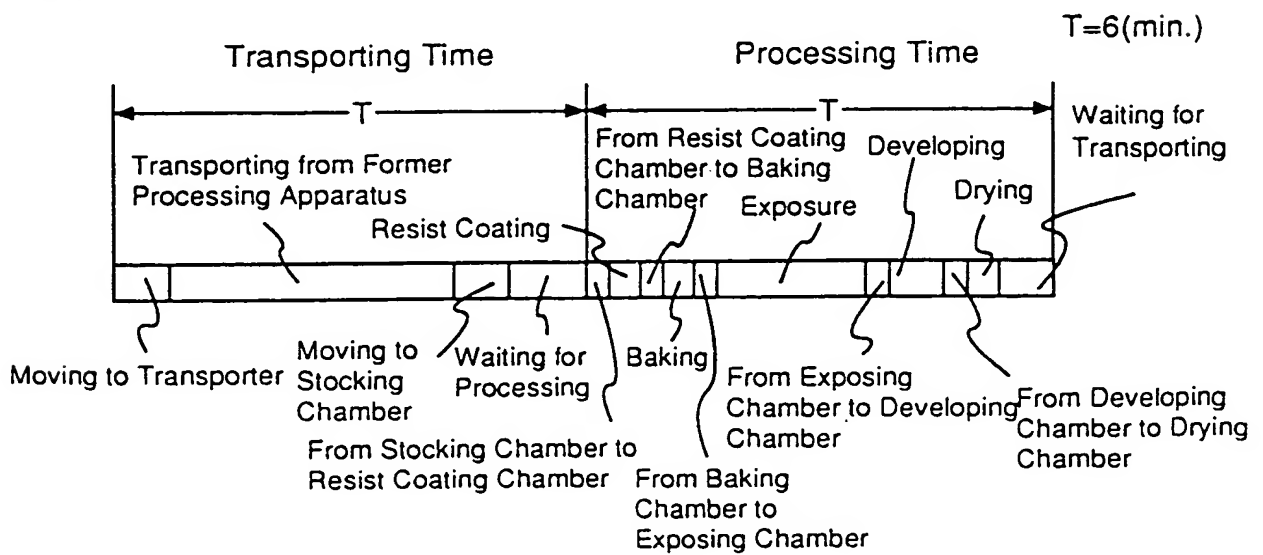


Fig. 9

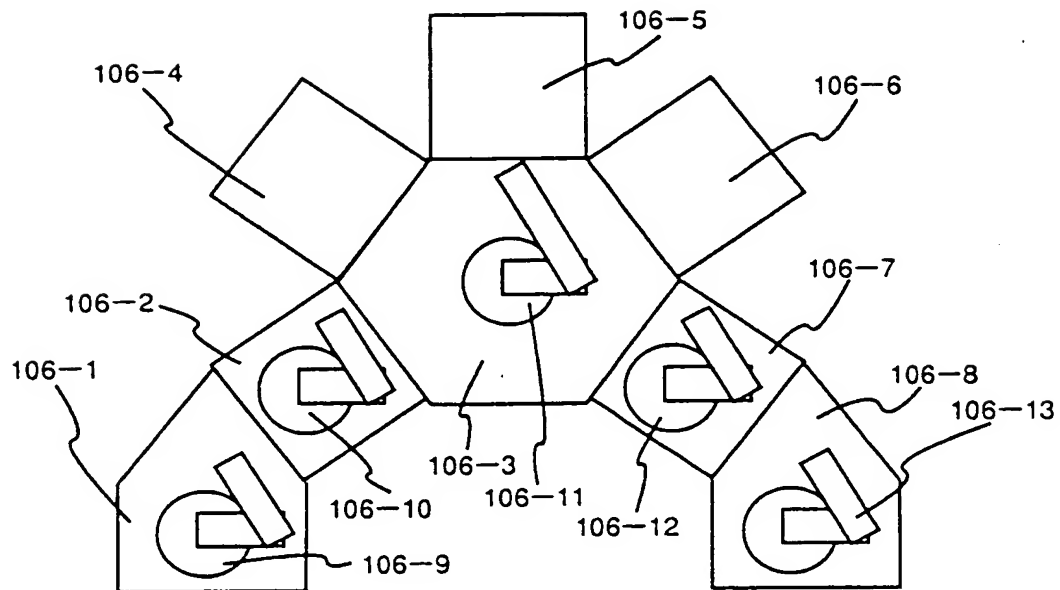


Fig. 10

Details of Transporting and Processing in Metal Films Dry Etching Apparatus.

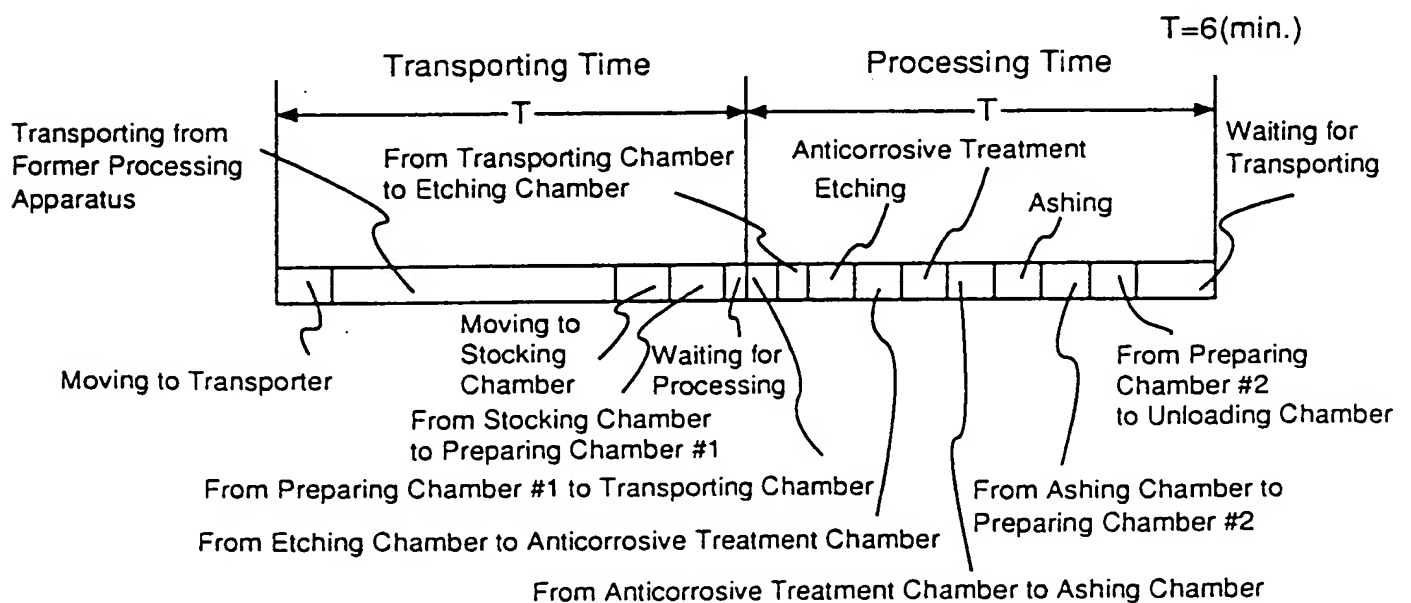


Fig. 11

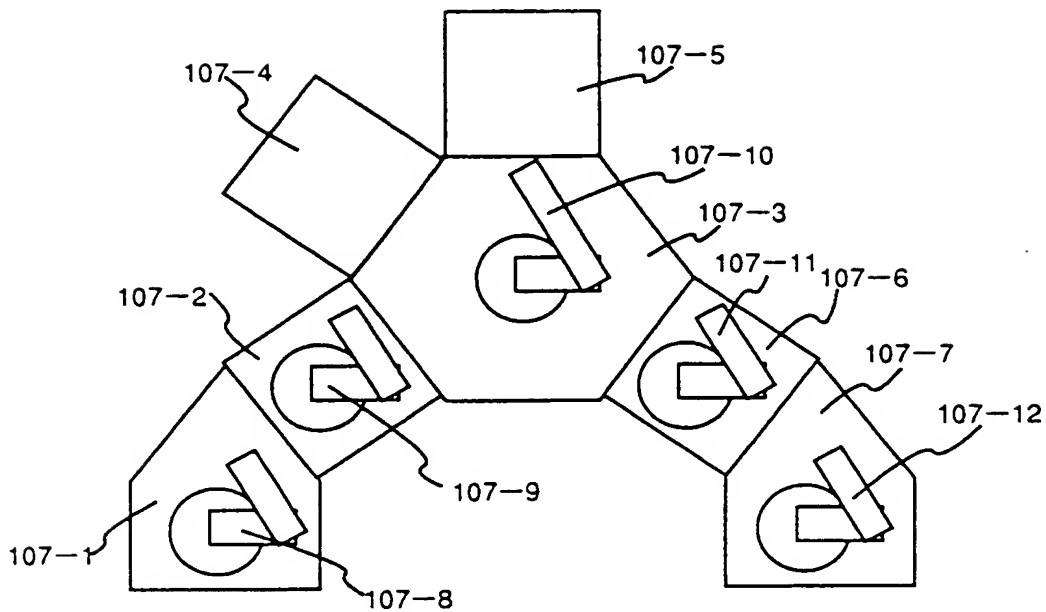


Fig. 12

Details of Transporting and Processing in Insulating Films Dry Etching Apparatus.

T=6(min.)

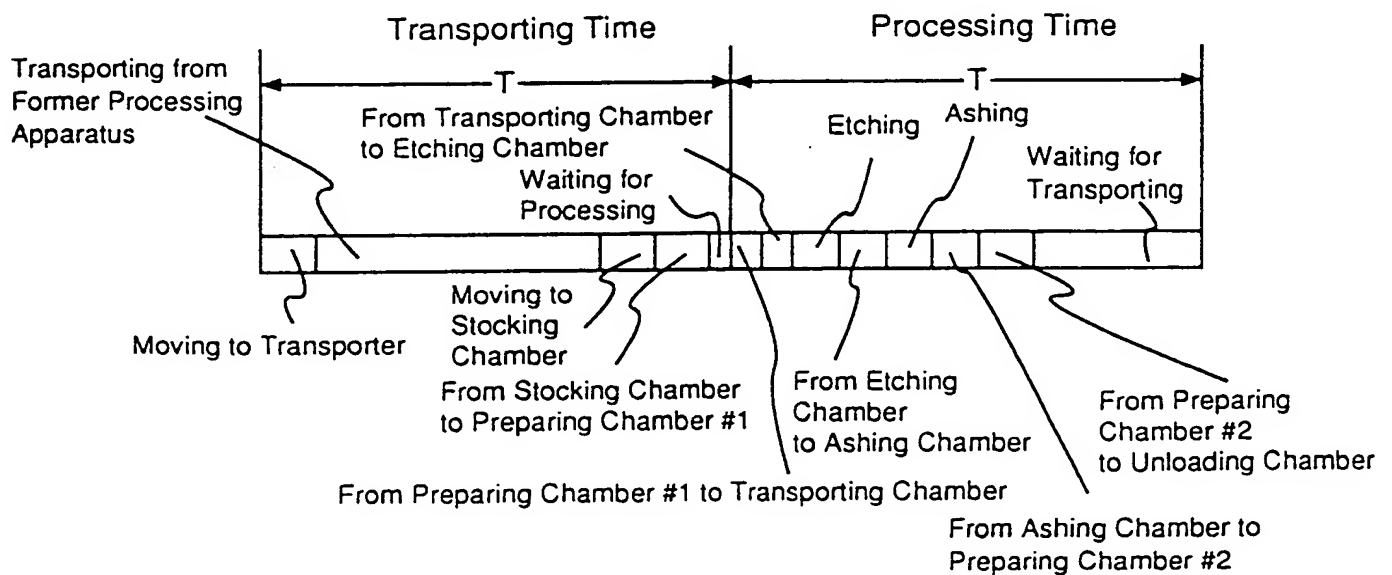


Fig. 13

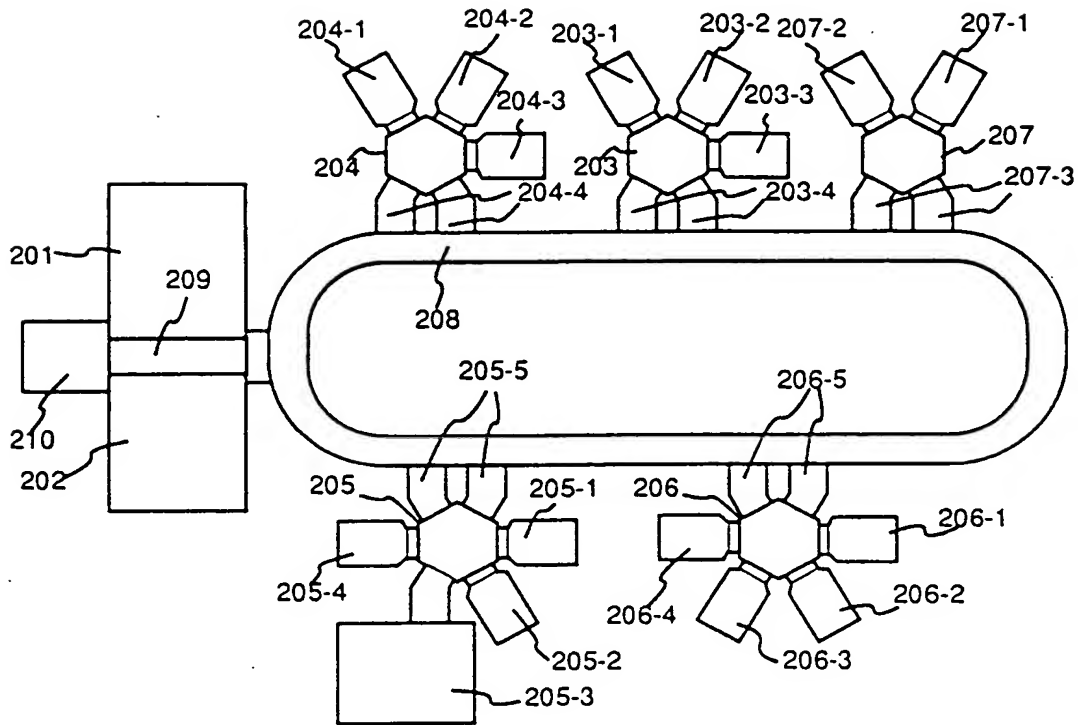


Fig. 14

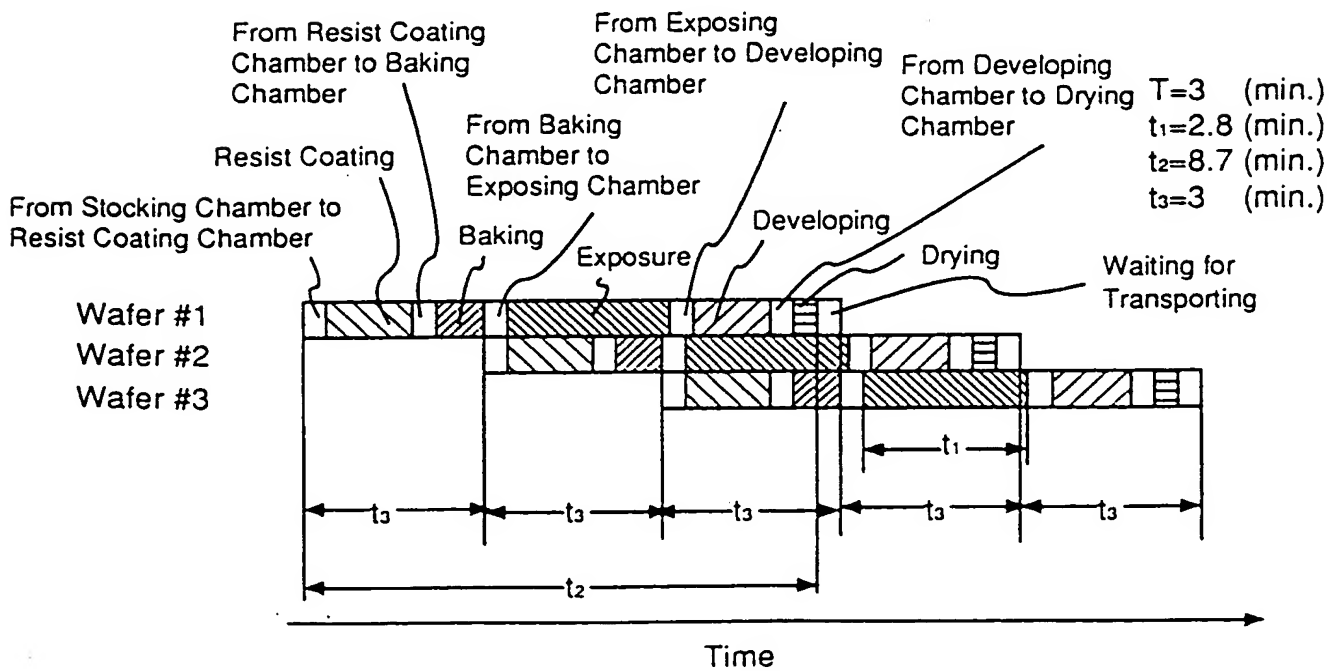


Fig. 15

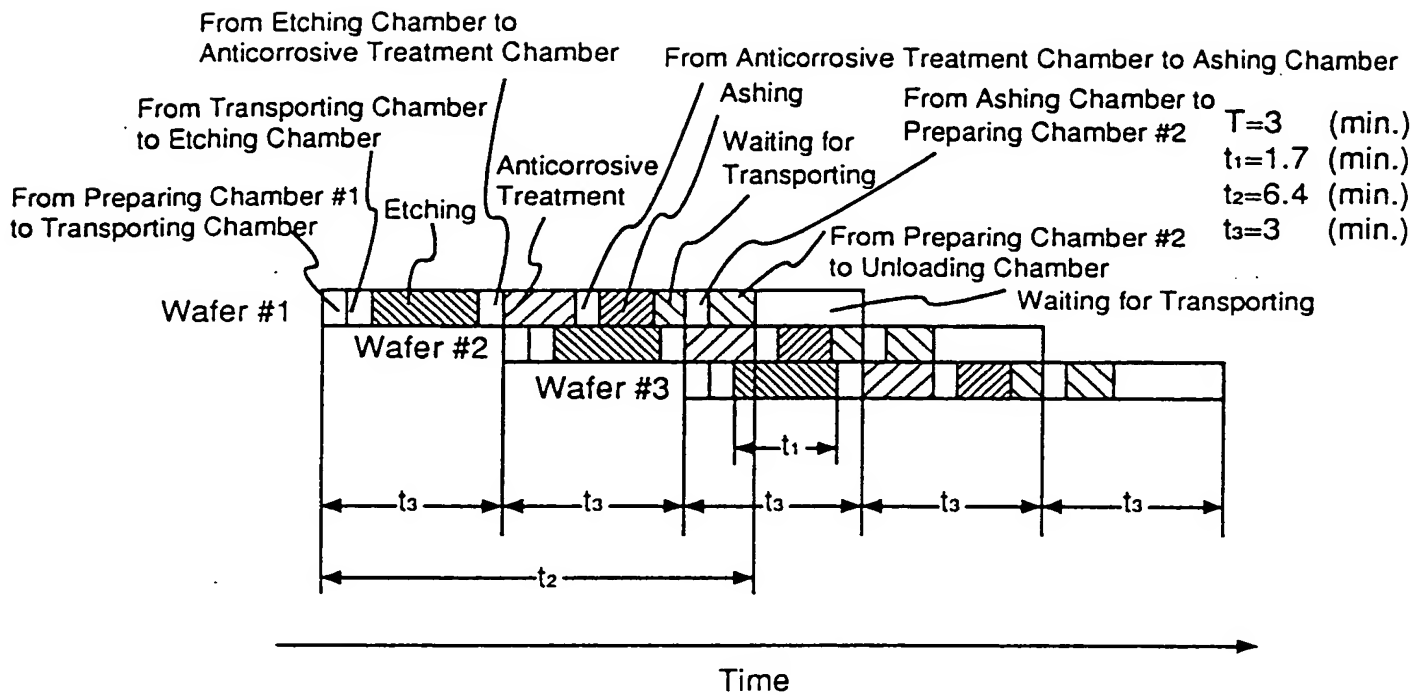


Fig. 16

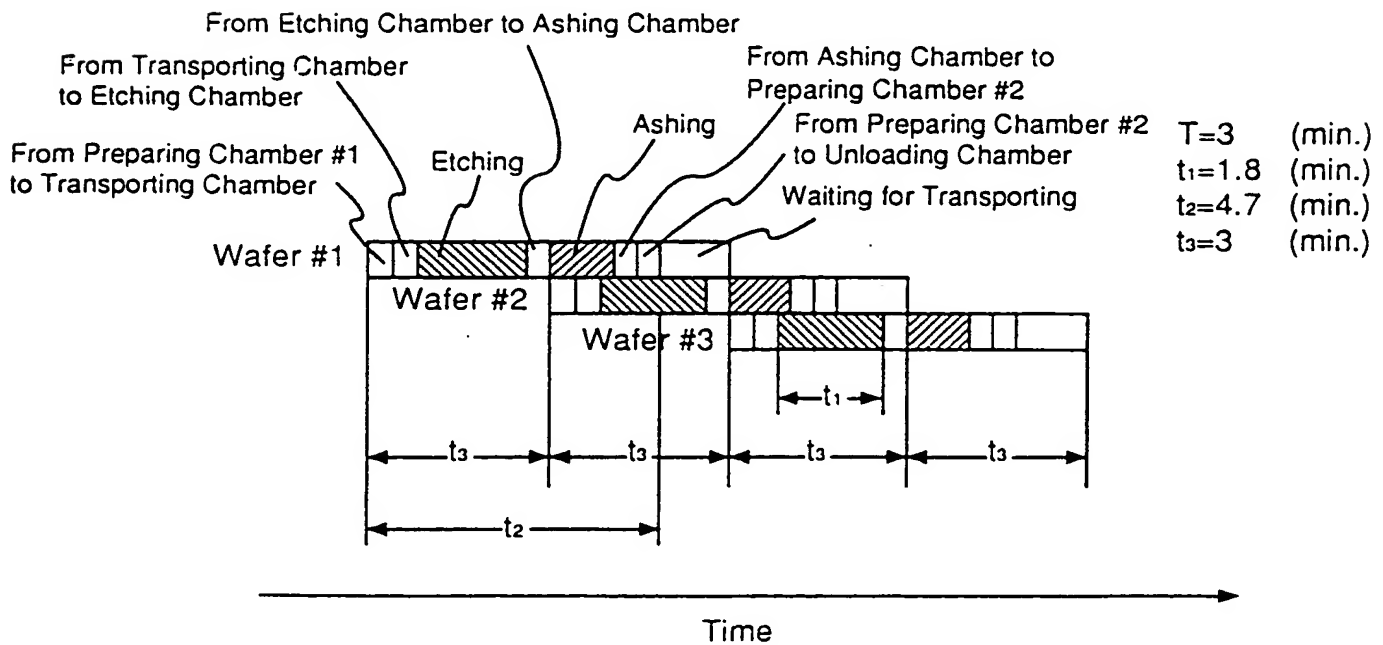


Fig. 17

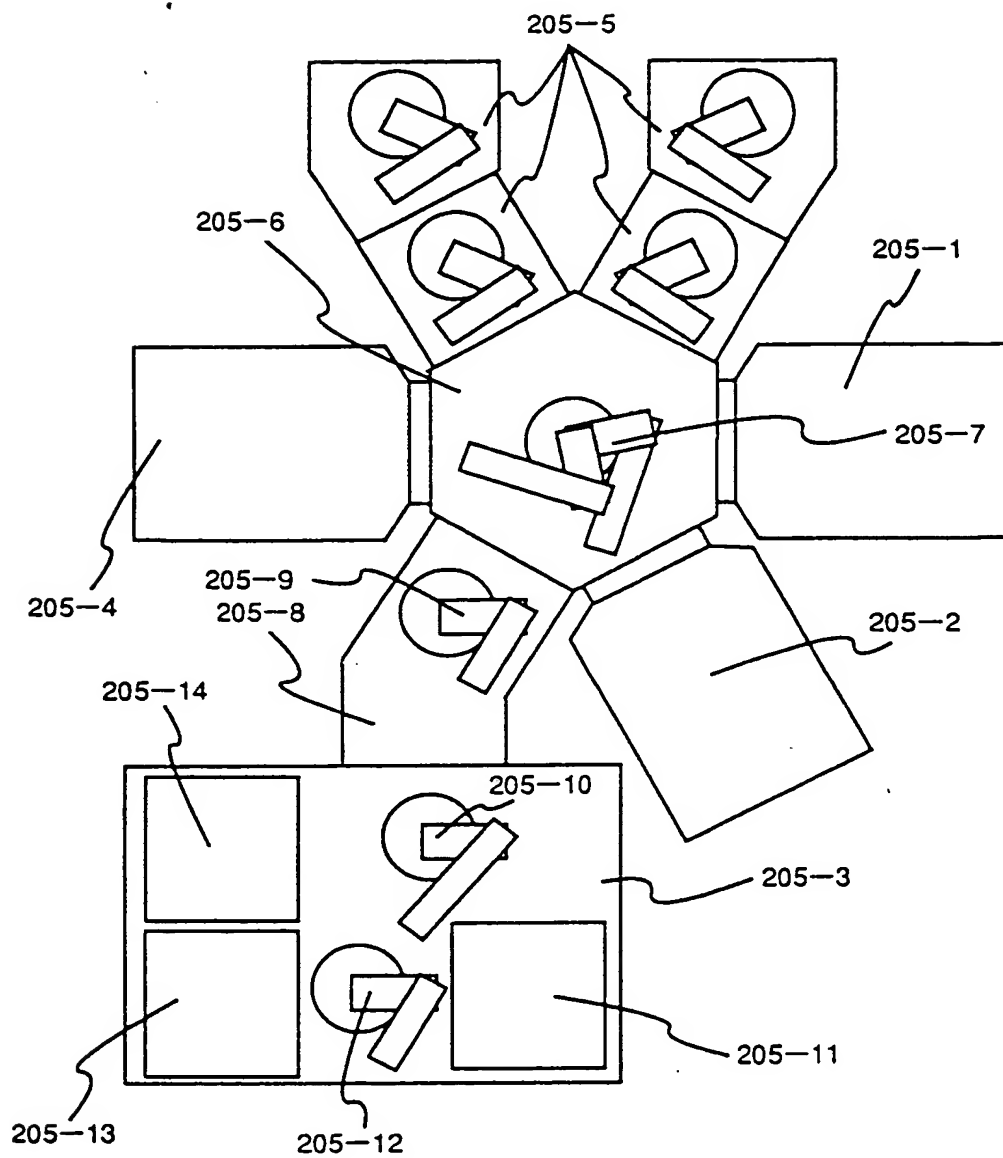


Fig. 18

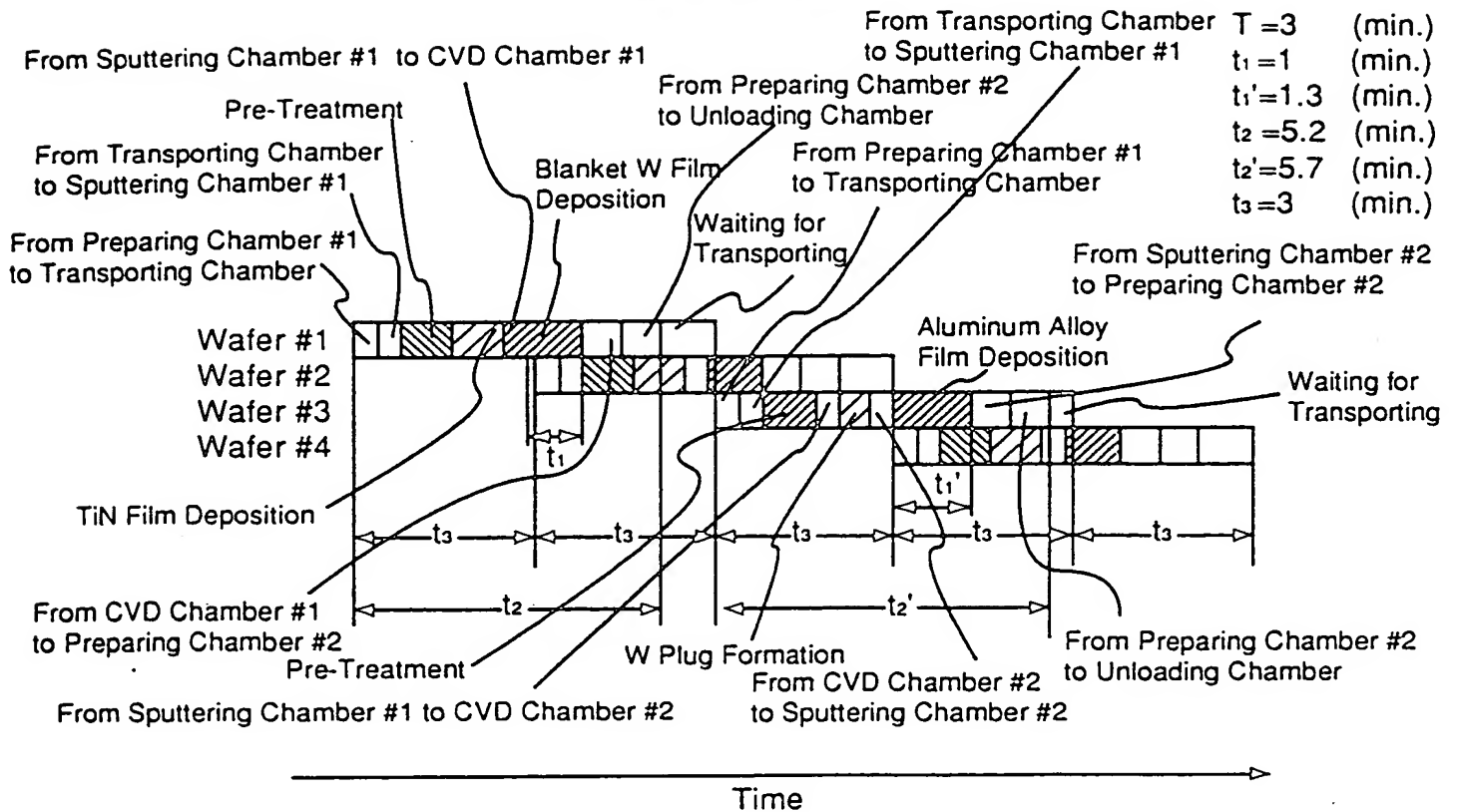


Fig. 19

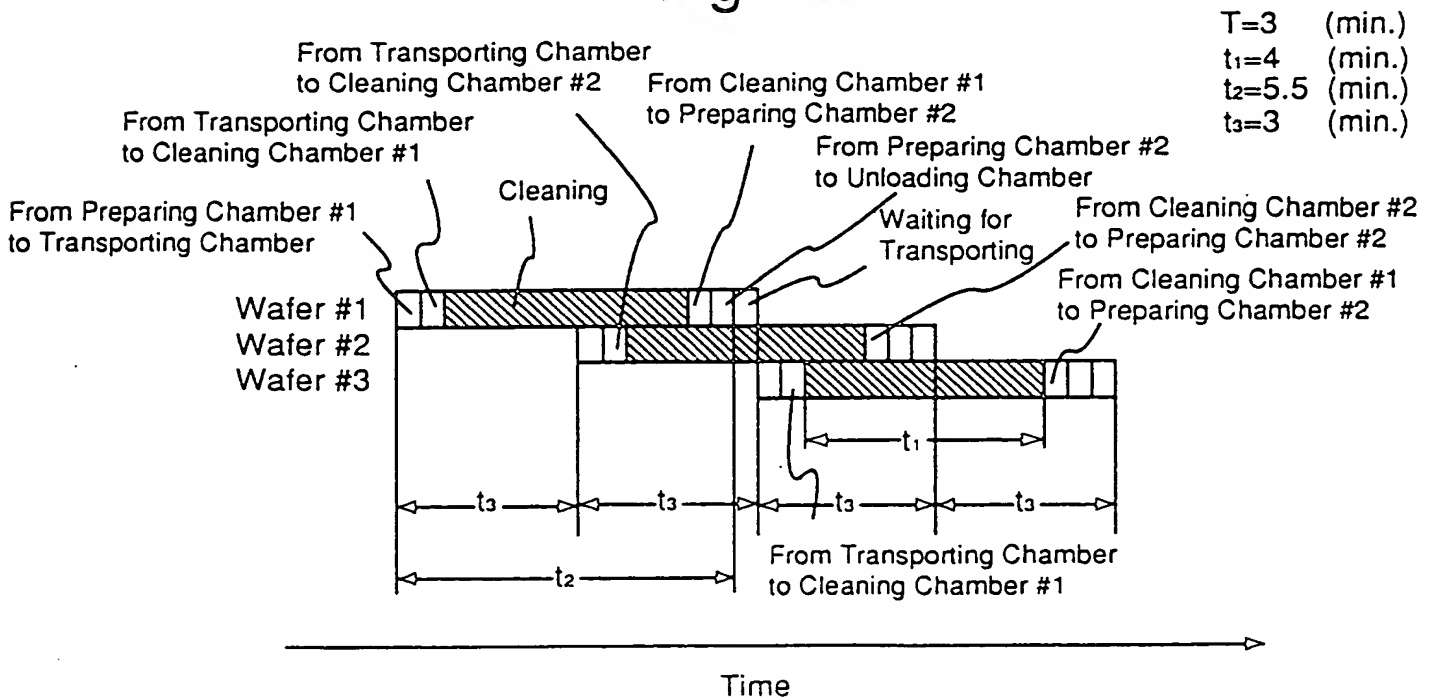


Fig. 20

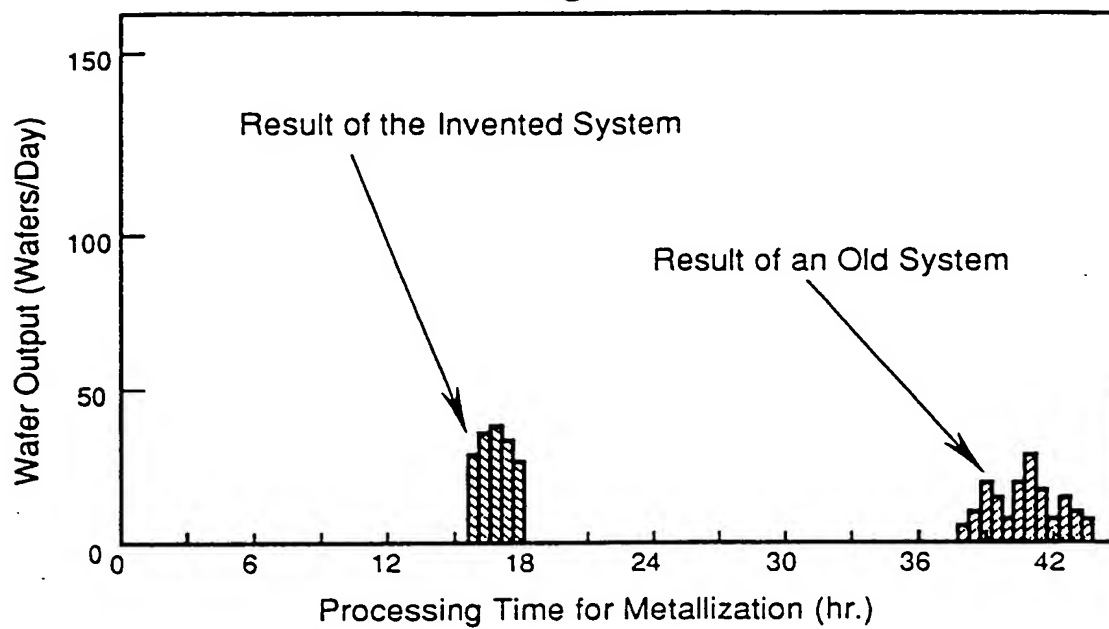


Fig. 21

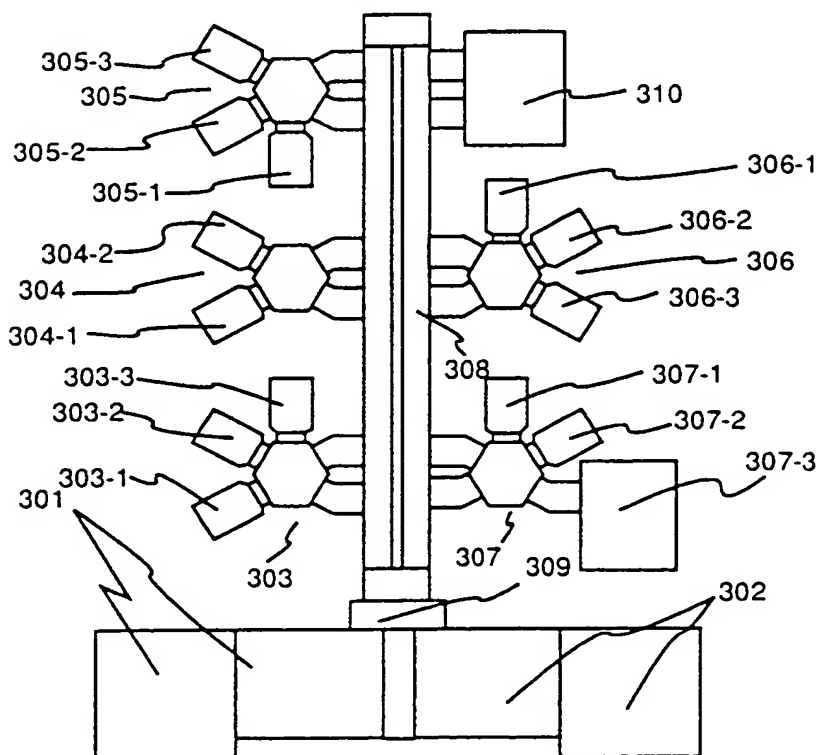


Fig. 22

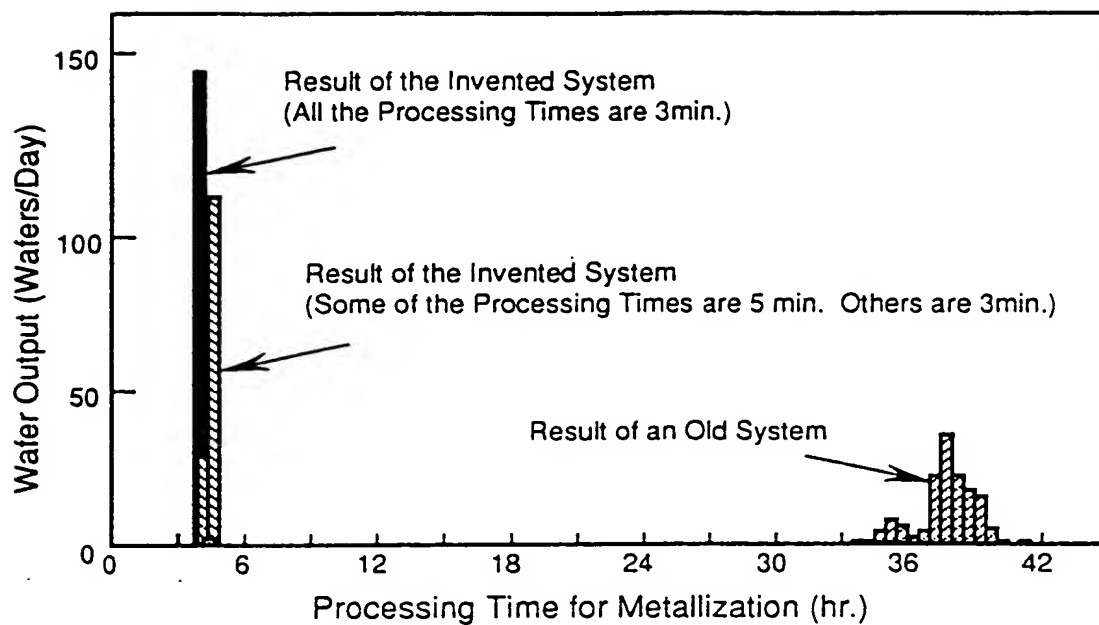


Fig. 23

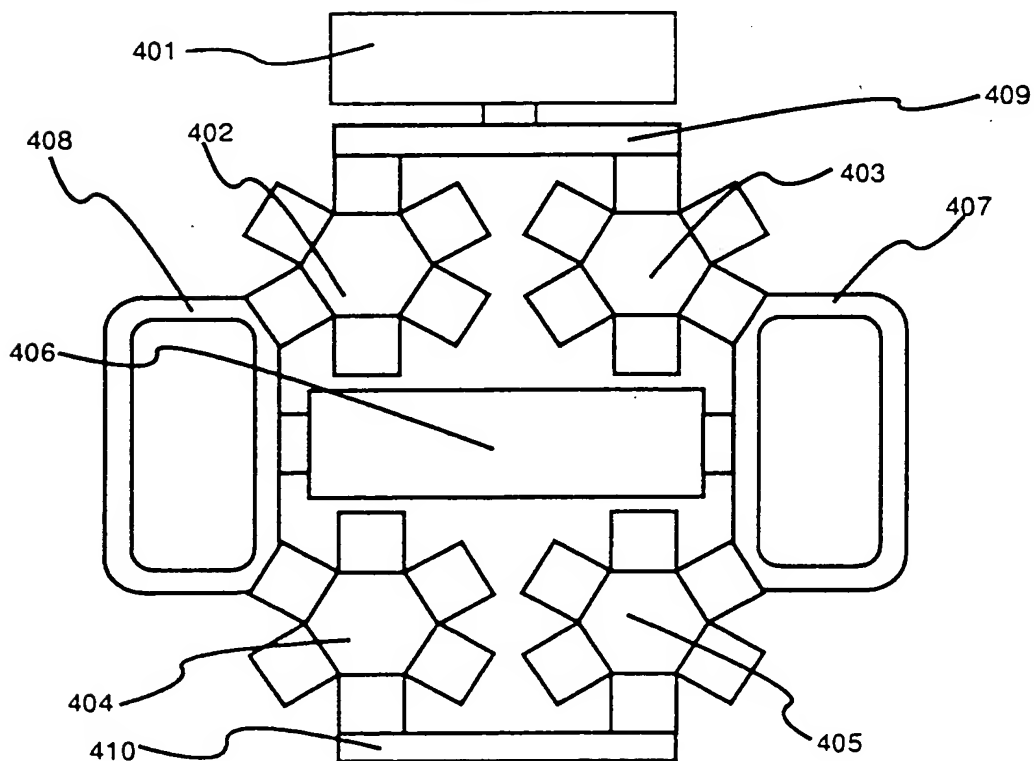


Fig. 24

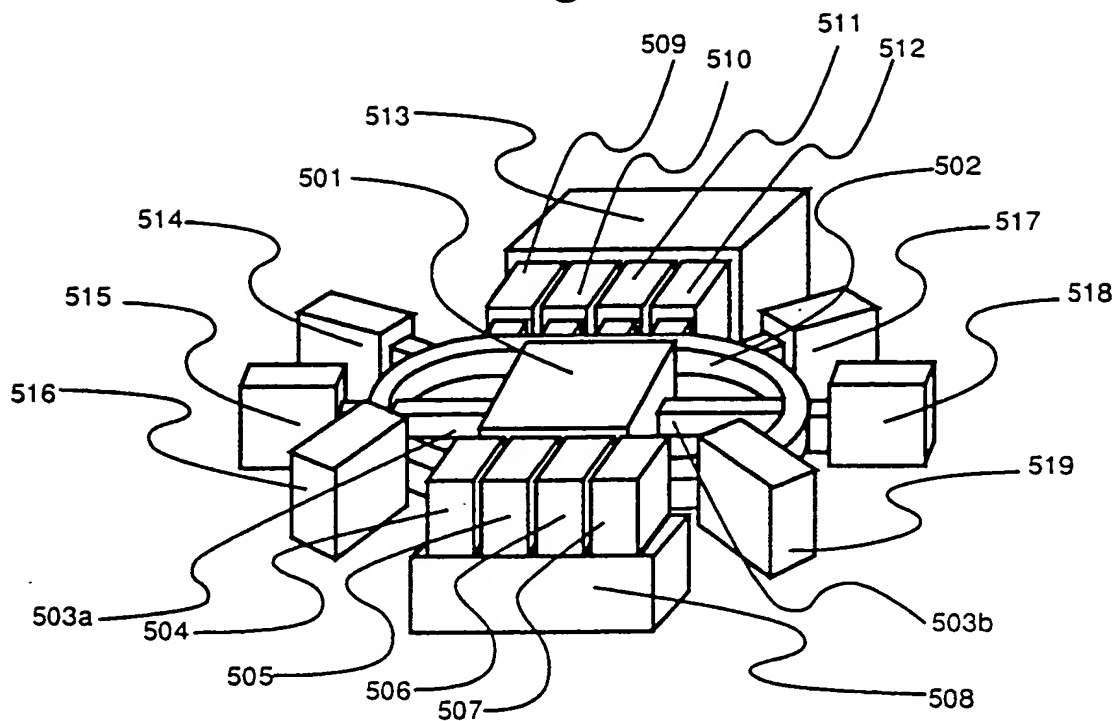
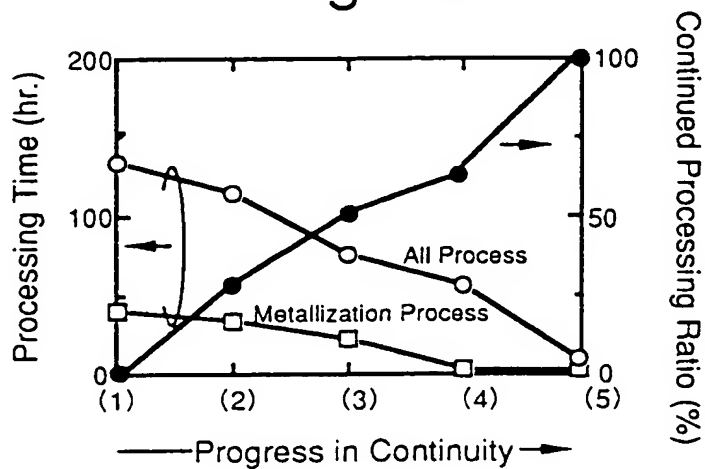


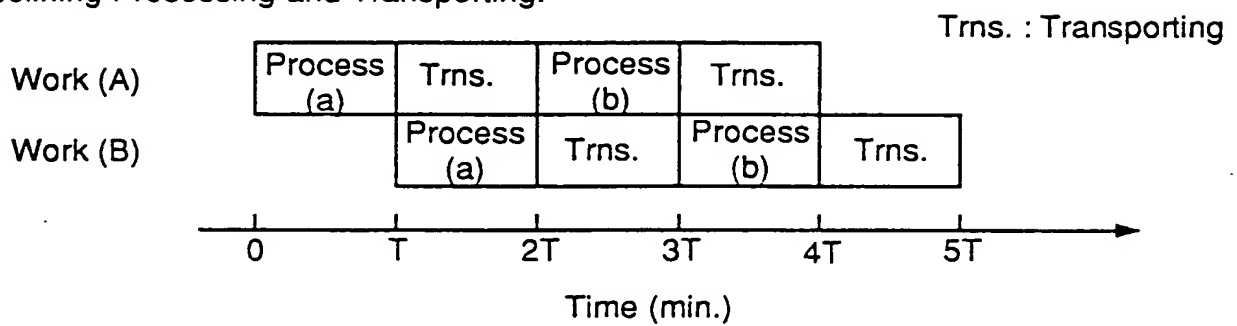
Fig. 25



Continued Processing Ratio = Continued Process Steps / All Process Steps

Fig. 26

Pipelining Processing and Transporting.



Processing and Transporting by Lot.

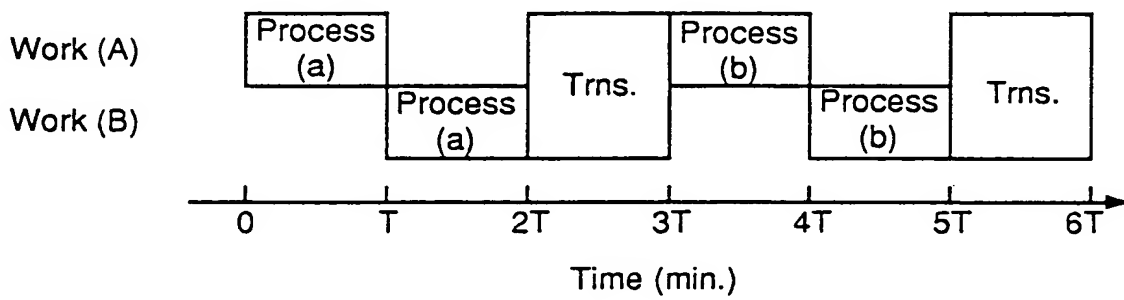


Fig. 27

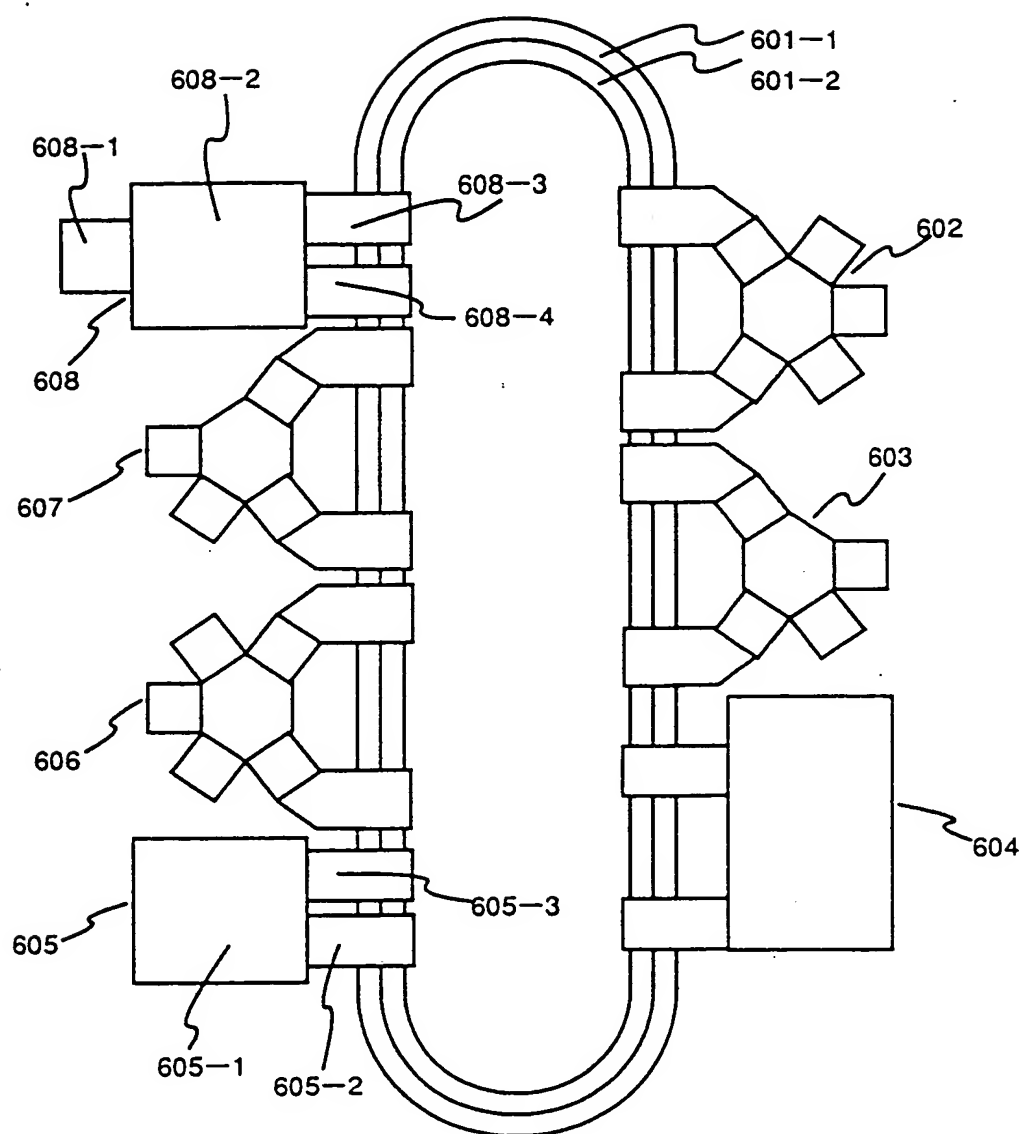


Fig. 28

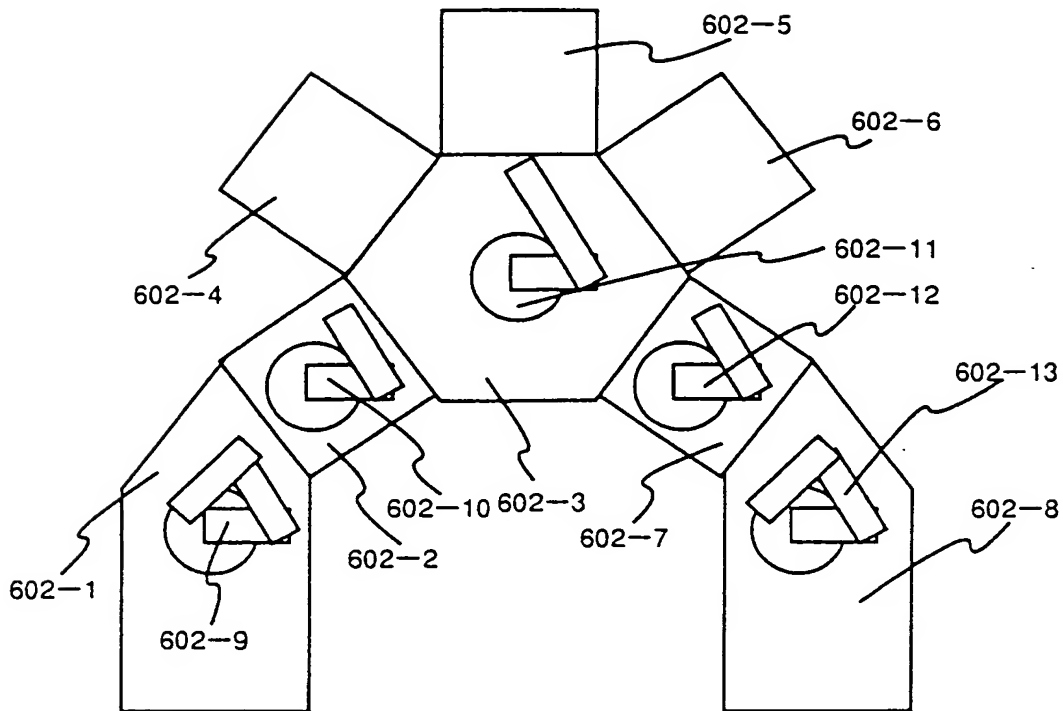


Fig. 29

Details of Transporting and Processing in Metal Films Deposition Apparatus.

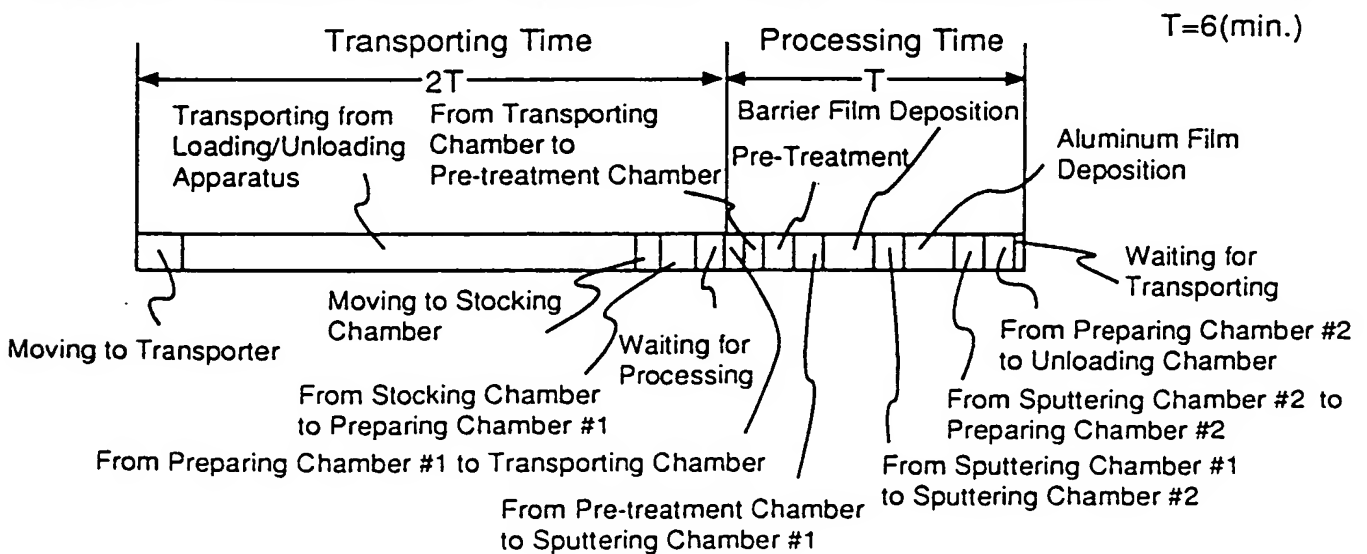


Fig. 30

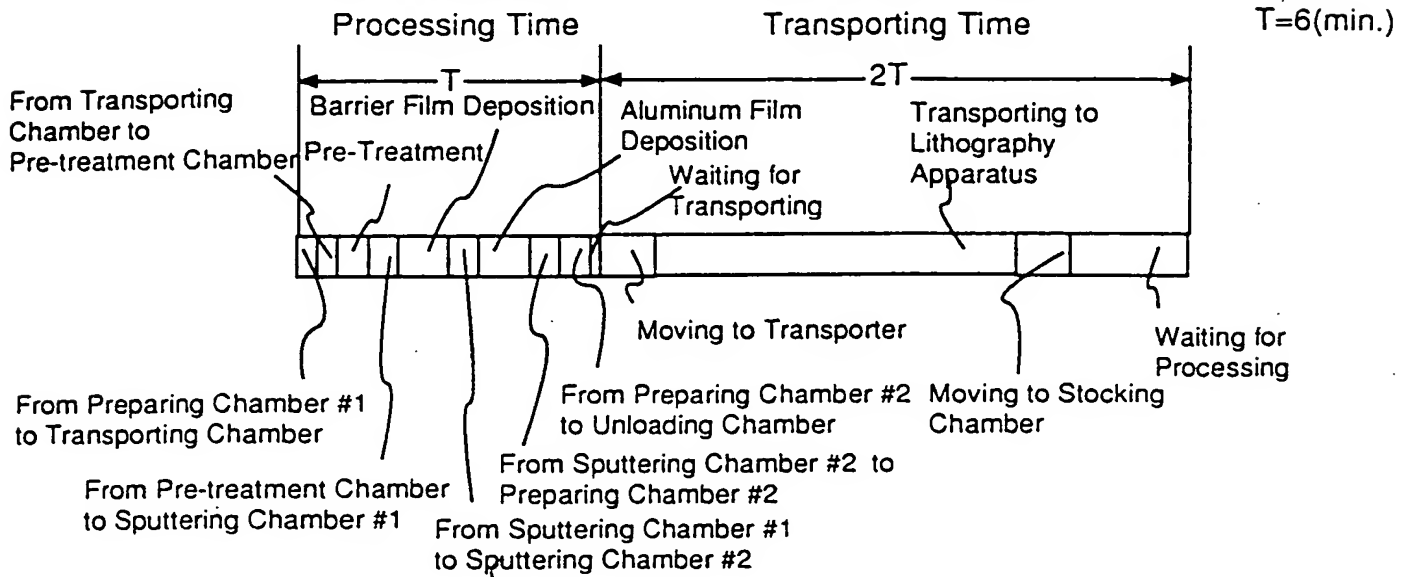
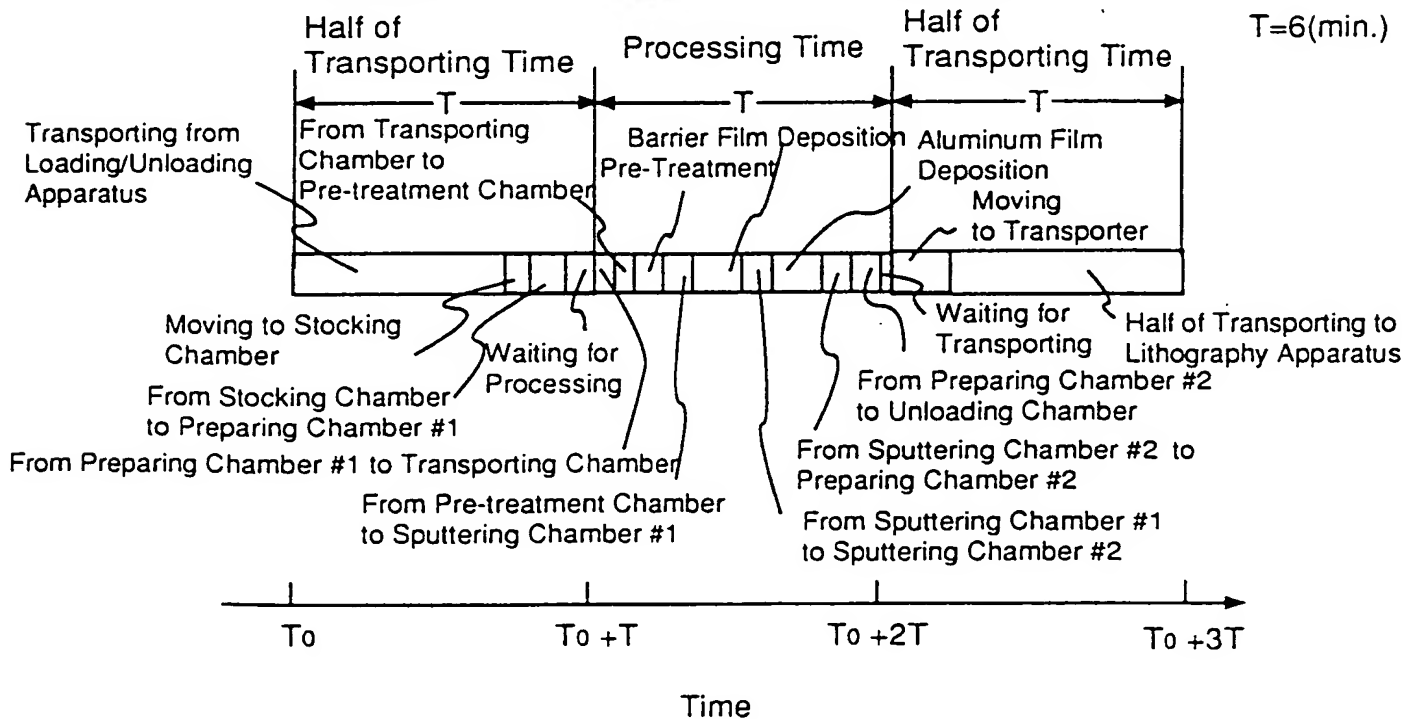
Details of Transporting and Processing of Semiconductor Wafer #1.Details of Transporting and Processing of Semiconductor Wafer #2.

Fig. 31

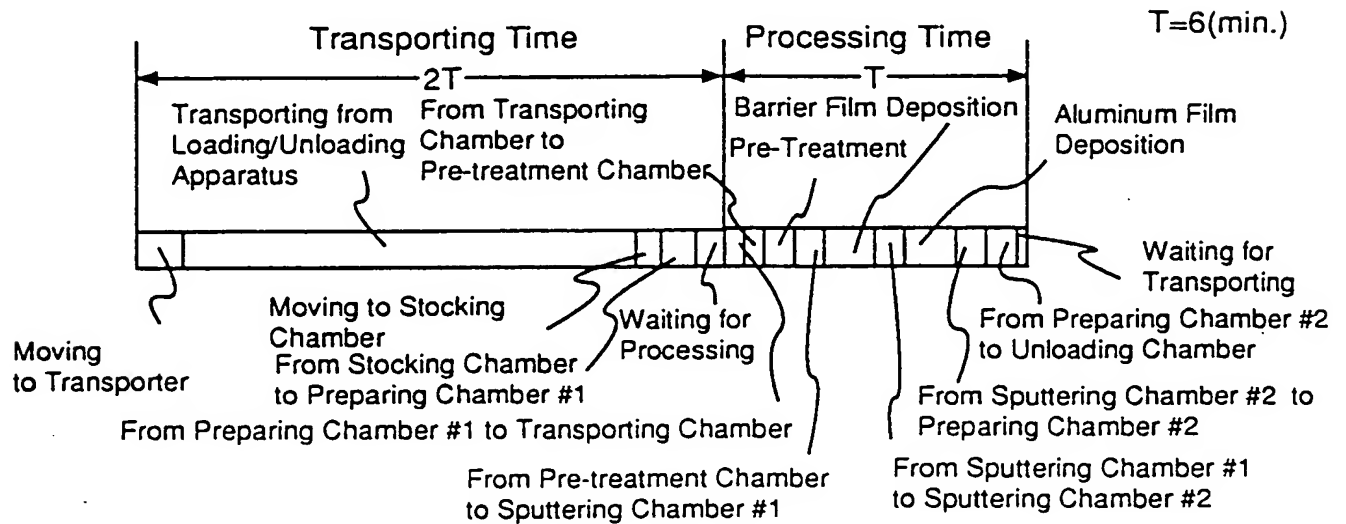
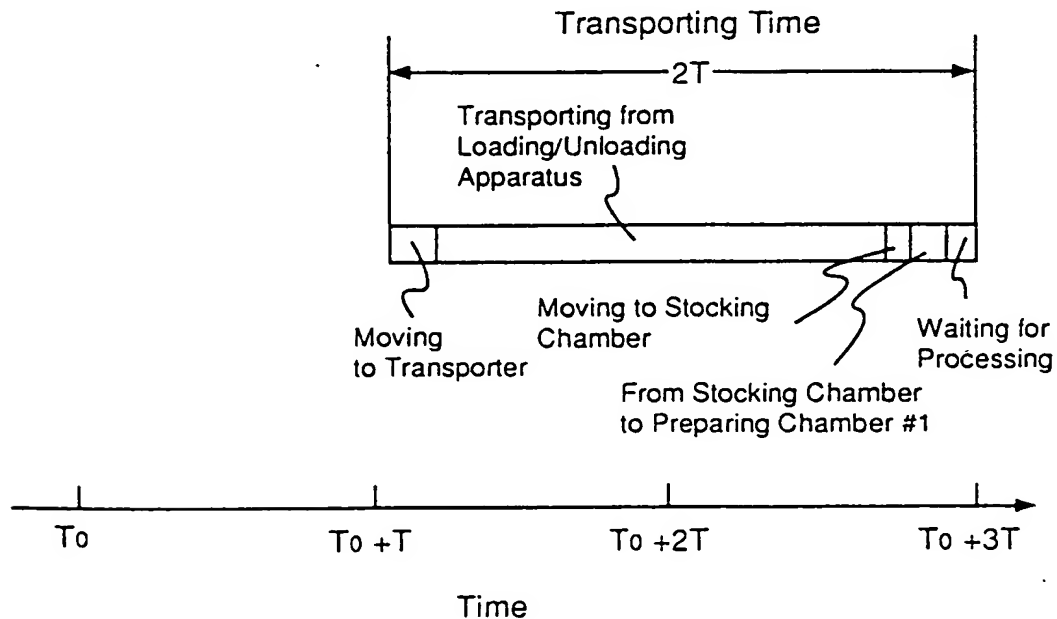
Details of Transporting and Processing of Semiconductor Wafer #3Details of Transporting and Processing of Semiconductor Wafer #4. $T=6(\text{min.})$ 

Fig. 32

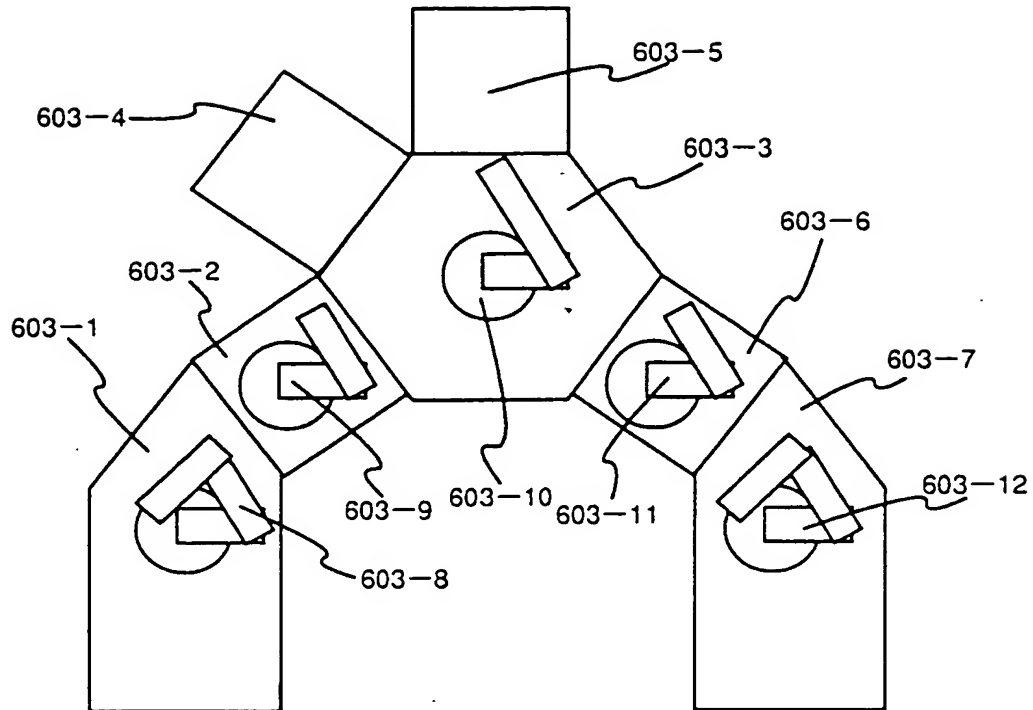


Fig. 33

Details of Transporting and Processing in Insulating Films Deposition Apparatus.

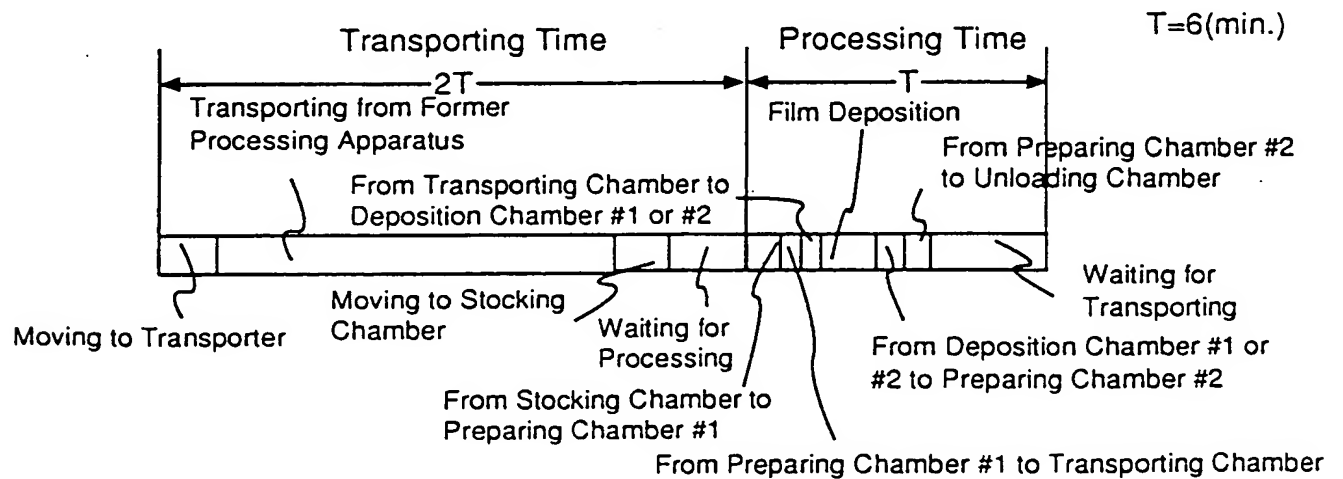


Fig. 34

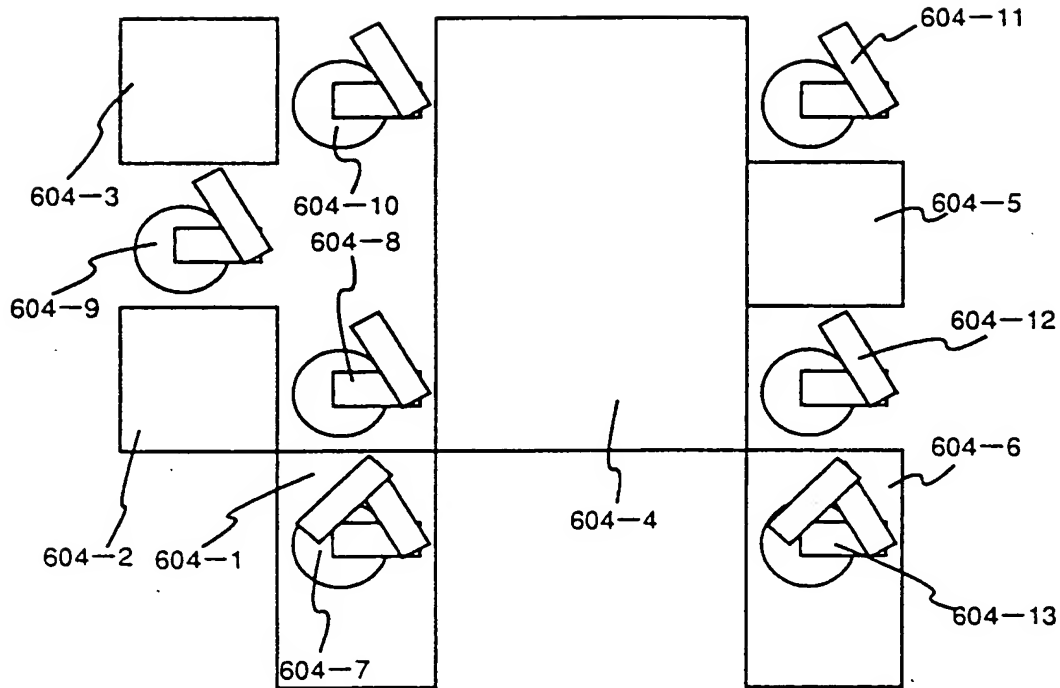


Fig. 35

Details of Transporting and Processing in Lithography Apparatus.

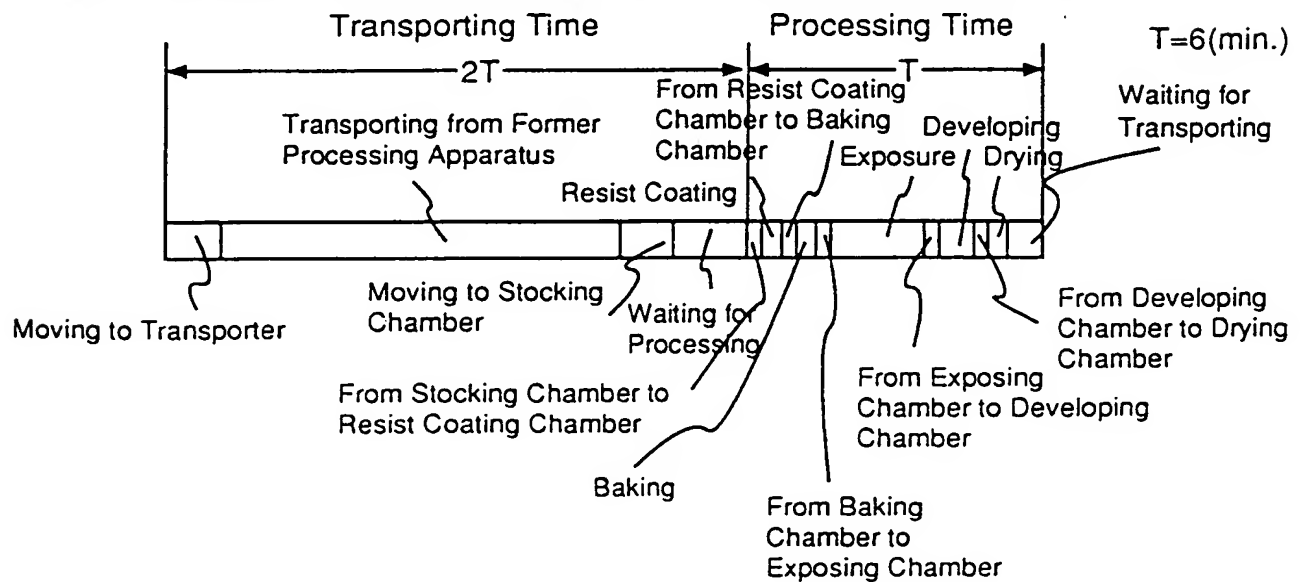


Fig. 36

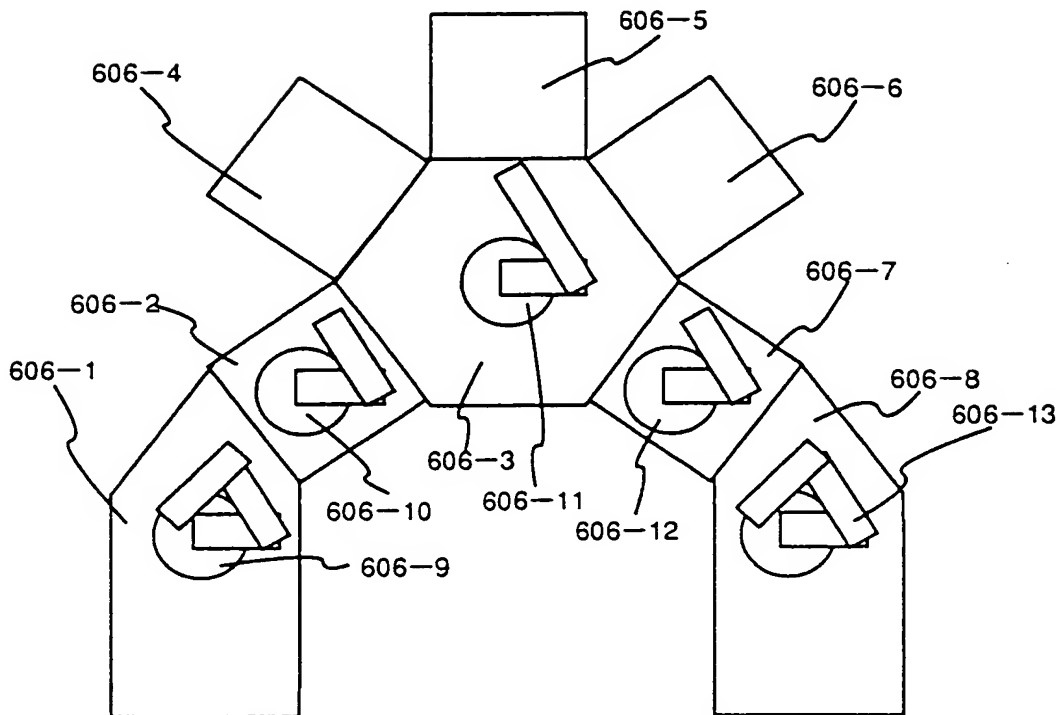


Fig. 37

Details of Transporting and Processing in Metal Films Dry Etching Apparatus.

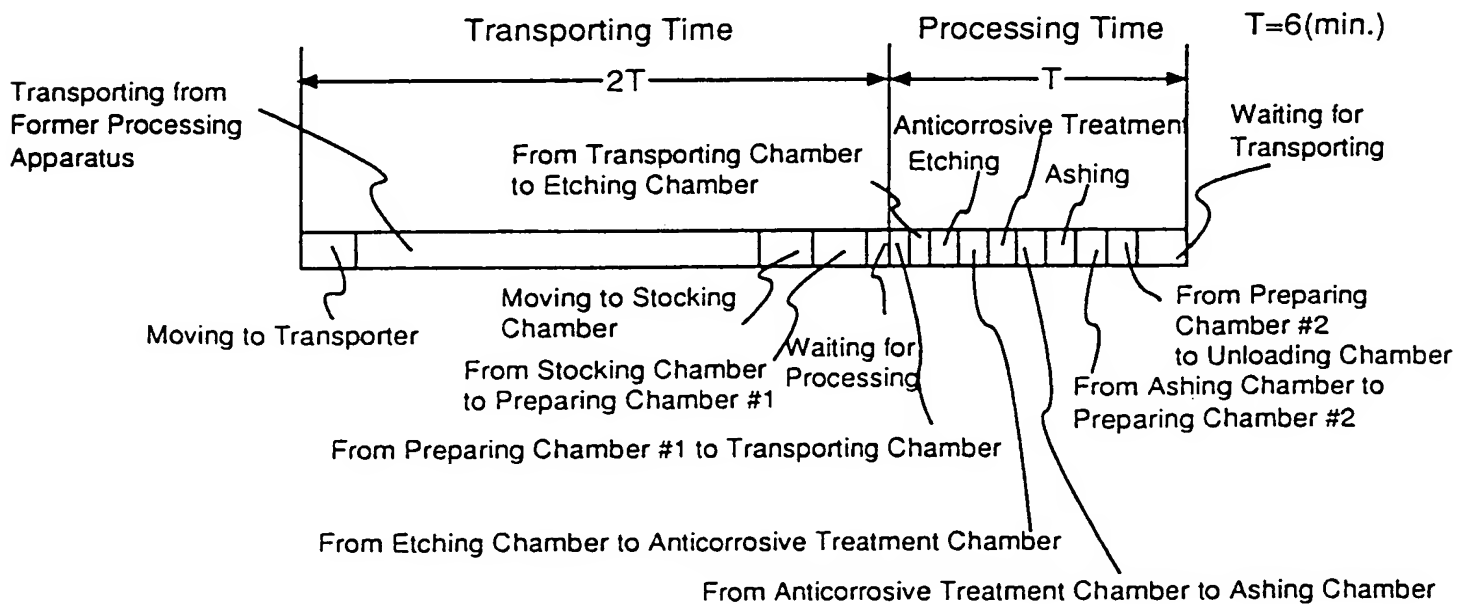


Fig. 38

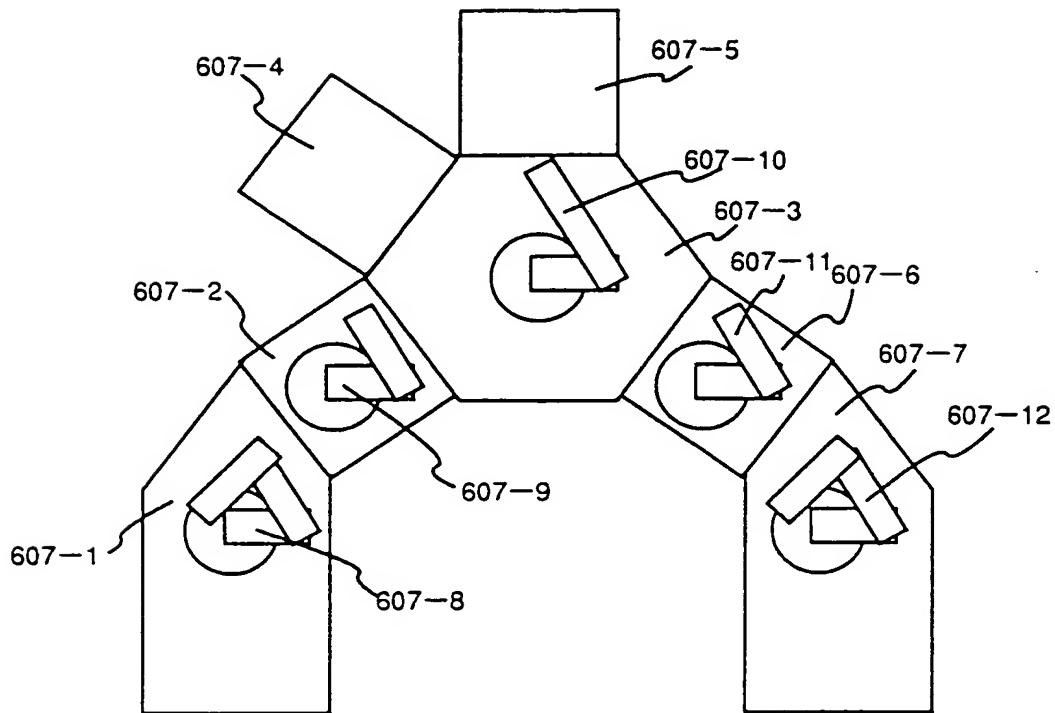


Fig. 39

Details of Transporting and Processing in Insulating Films Dry Etching Apparatus.

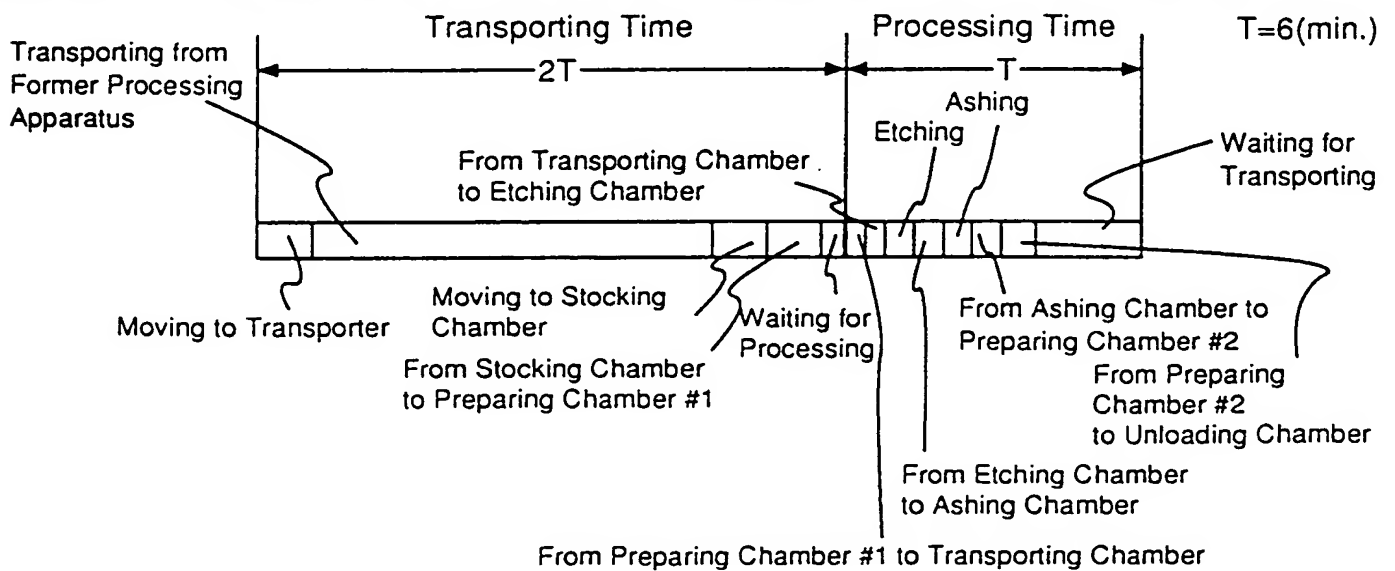


Fig. 40

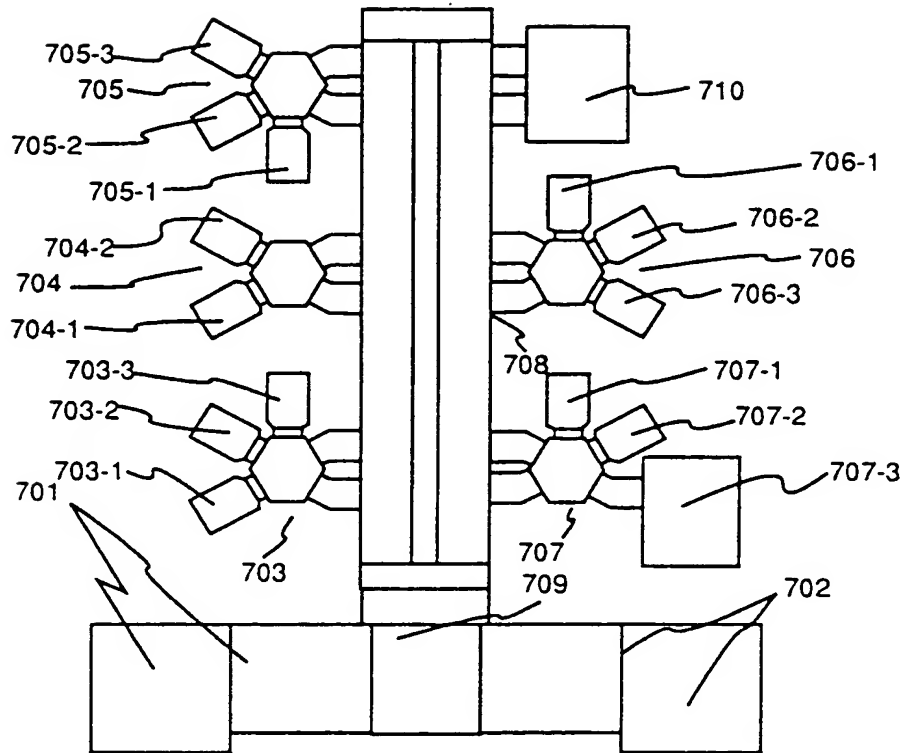


Fig. 41

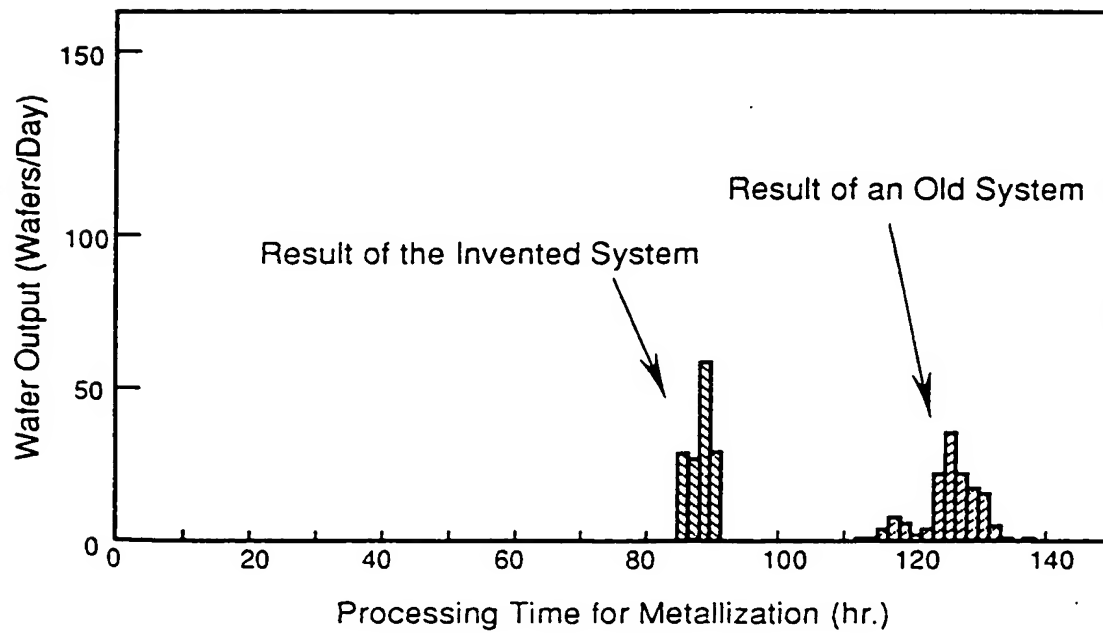


Fig. 42

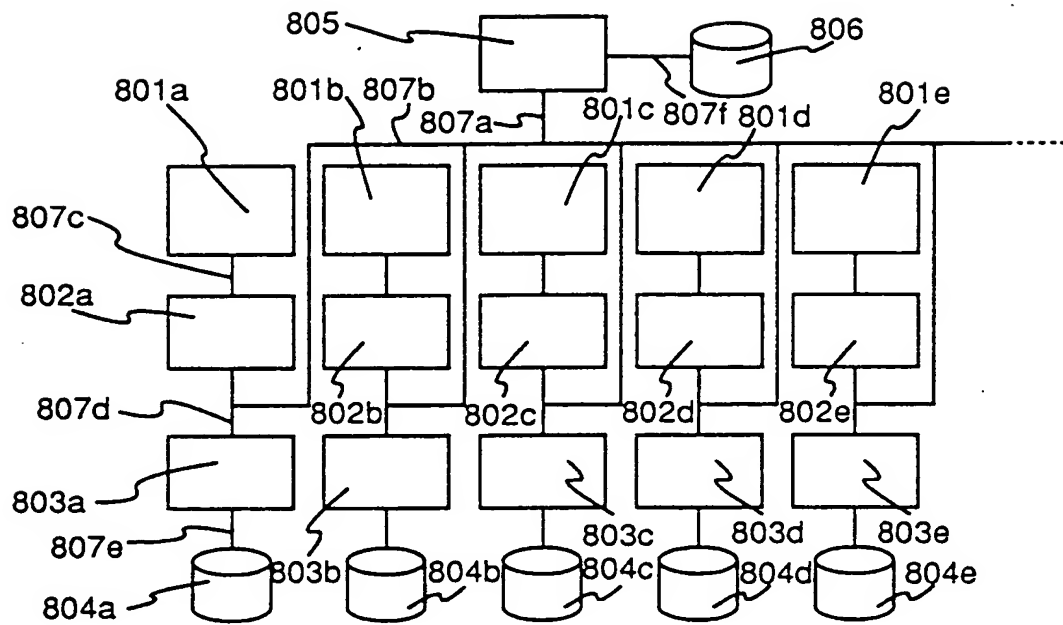
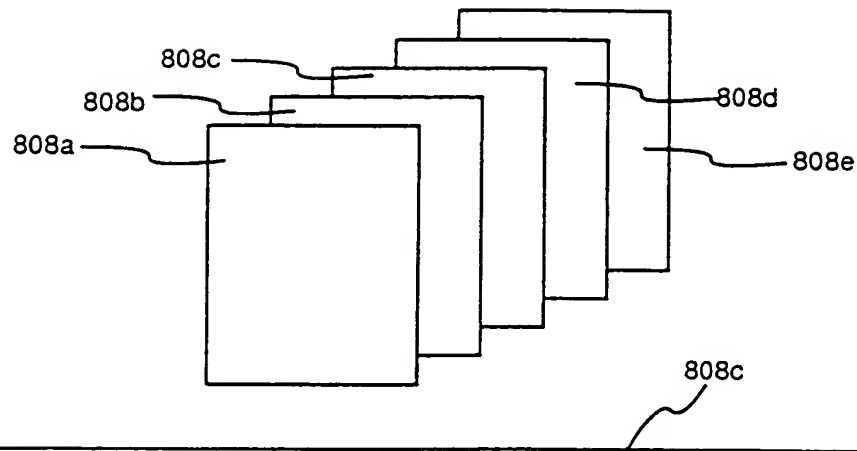


Fig. 43



Wafer # : 00002、Kind : ABCD、Start : 940505		
Step #	Process	Information on Result of Processing and Transporting
1	Contact Hole Lithography	Kind: ABCD, Layer: Contact Hole, Check: OK
2	Contact Hole Dry Etching	Kind:ABCD, Layer:Contact Hole, Normal Operation
3	Ashing	Kind:ABCD, Layer:Contact Hole, Normal Operation
4	Cleaning	Condition: After Cont. Etching, Normal Operation
5	SiO ₂ Cleaning	Condition: Before 1st Metal Depo., Normal Operation
6	TiN Film Sputtering	Set: 100nm, Result: 110nm, Normal Operation
7	W Film CVD	Set: 150nm, Result: 155nm, Normal Operation
8	1st Metal Lithography	Kind: ABCD, Layer: 1st Metal, Under Exposure
9	1st Metal Dry Etching	
10	Ashing	
11	Cleaning	
12	Insulator Film Deposition	
13	SOG Coating, Baking	
14	Insulator Film Deposition	
15	Via Hole Lithography	
16	Via Hole Dry Etching	
17	Ashing	
18	Cleaning	
19	SiO ₂ Cleaning	
20	W Film CVD	
21	Al Film Sputtering	
22	2nd Metal Lithography	
23	2nd Metal Dry Etching	
24	Ashing	
25	Cleaning	
26	Insulator Film Deposition	
27	Silicon Nitride Deposition	
28	Passivation Layer Lithography	
29	Passivation Layer Dry Etching	
30	Ashing	
31	Cleaning	

Fig. 44



Wafer # : 00002, Kind : ABCD, Start : 940505, End : 940505 17 : 30				
Step #	Process	Information on Result of Processing and Transporting	Scheduling Information of Proc.	
			Proc. Apparatus	Starting Time
1	Contact Hole Lithography	Kind: ABCD, Layer: Contact Hole	201	940505 10:00
2	Contact Hole Dry Etching	Kind: ABCD, Layer: Contact Hole	203-1	940505 10:30
3	Ashing	Kind: ABCD, Layer: Contact Hole	203-3	940505 10:40
4	Cleaning	Condition: After Cont. Etching	205-2	940505 10:50
5	SiO ₂ Cleaning	Condition: Before 1st Metal Depo.	205-1	940505 11:00
6	TiN Film Sputtering	Set: 100nm, Result: 110nm	206-1	940505 11:10
7	W Film CVD	Set: 150nm, Result: 155nm	206-3	940505 11:20
8	1st Metal Lithography	Kind: ABCD, Layer: 1st Metal	201	940505 11:30
9	1st Metal Dry Etching	Set: W/TiN=155nm/110nm	204-1	940505 12:00
10	Ashing	Kind: ABCD, Layer: 1st Metal	204-2	940505 12:10
11	Cleaning	Condition: After 1st Metal Etching	205-3	940505 12:20
12	Insulator Film Deposition	Condition: Lower Layer of Insulating	207-2	940505 12:30
13	SOG Coating, Baking	Condition: Insulating	207-3	940505 12:40
14	Insulator Film Deposition	Condition: Upper Layer of Insulating	207-2	940505 12:50
15	Via Hole Lithography	Kind: ABCD, Layer: Via Hole, Now Dev.	202	940505 13:00
16	Via Hole Dry Etching		203-1	940505 13:30
17	Ashing		203-3	940505 13:40
18	Cleaning		205-2	940505 13:50
19	SiO ₂ Cleaning		205-1	940505 14:00
20	W Film CVD		206-3	940505 14:10
21	Al Film Sputtering		206-2	940505 14:20
22	2nd Metal Lithography		201	940505 14:30
23	2nd Metal Dry Etching		204-1	940505 15:00
24	Ashing		203-3	940505 15:30
25	Cleaning		205-3	940505 15:40
26	Insulator Film Deposition		207-2	940505 15:50
27	Silicon Nitride Deposition		207-1	940505 16:00
28	Passivation Layer Lithography		202	940505 16:30
29	Passivation Layer Dry Etching		203-1	940505 17:00
30	Ashing		203-3	940505 17:10
31	Cleaning		205-2	940505 17:20

Fig. 45

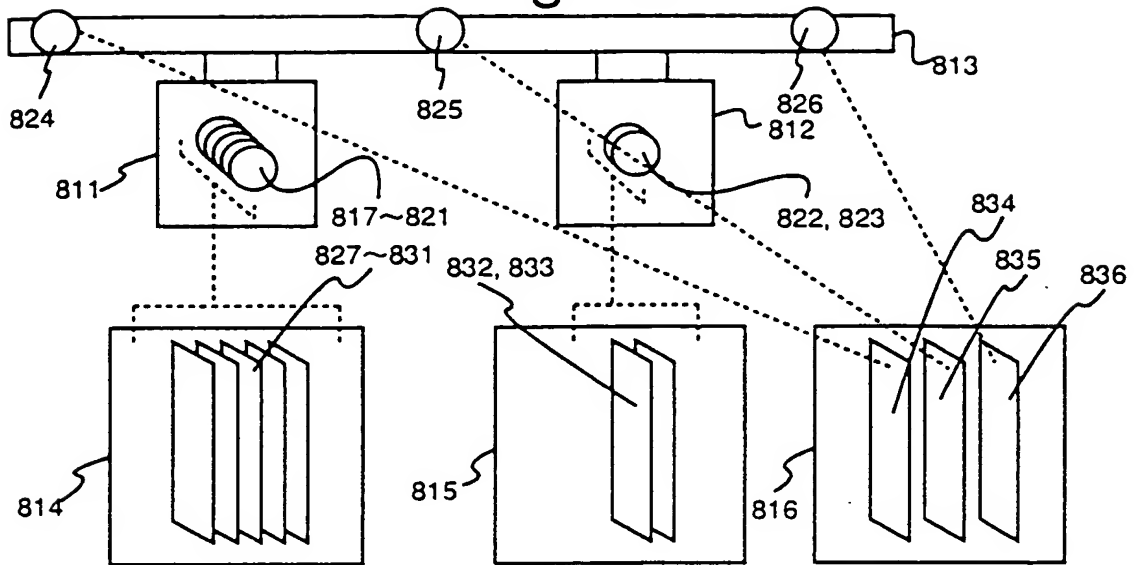


Fig. 46

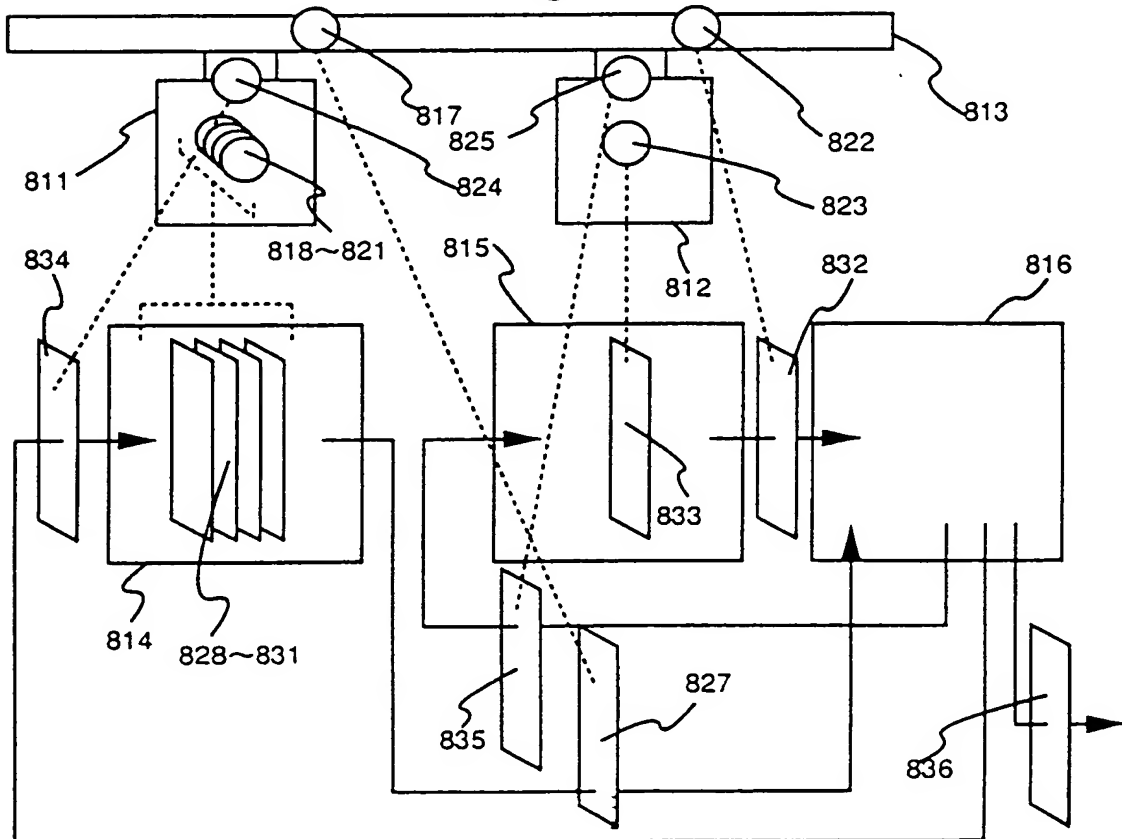


Fig. 47

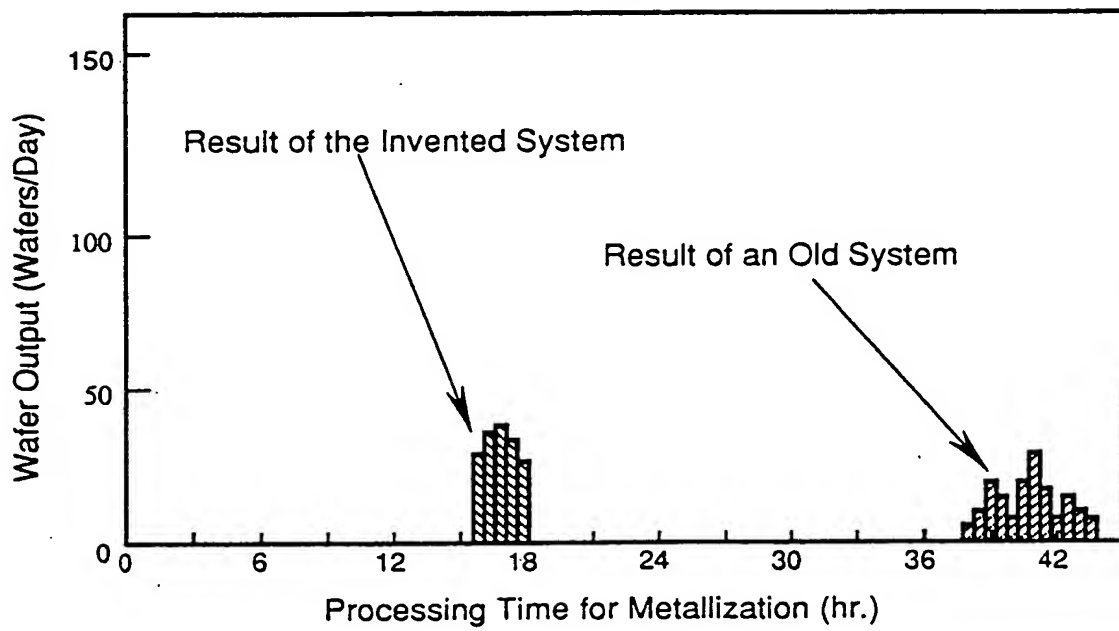


Fig. 48

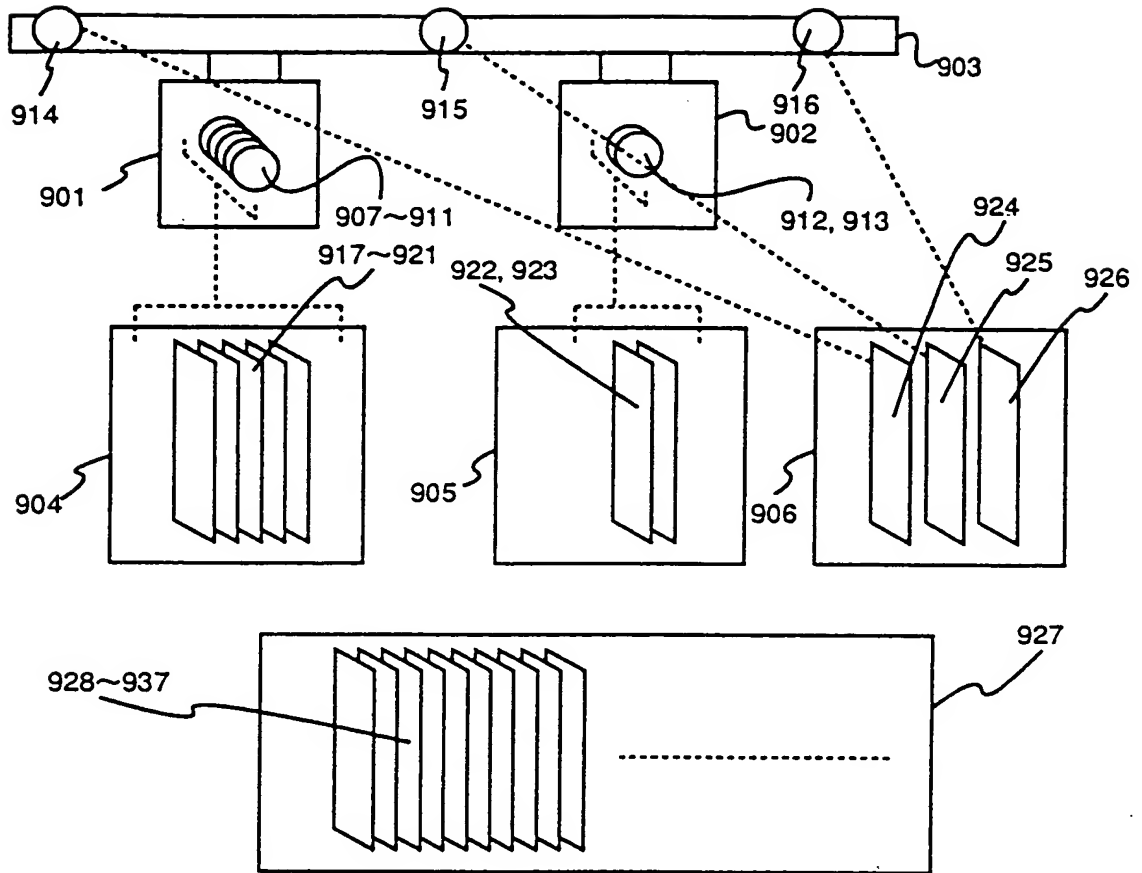


Fig. 49

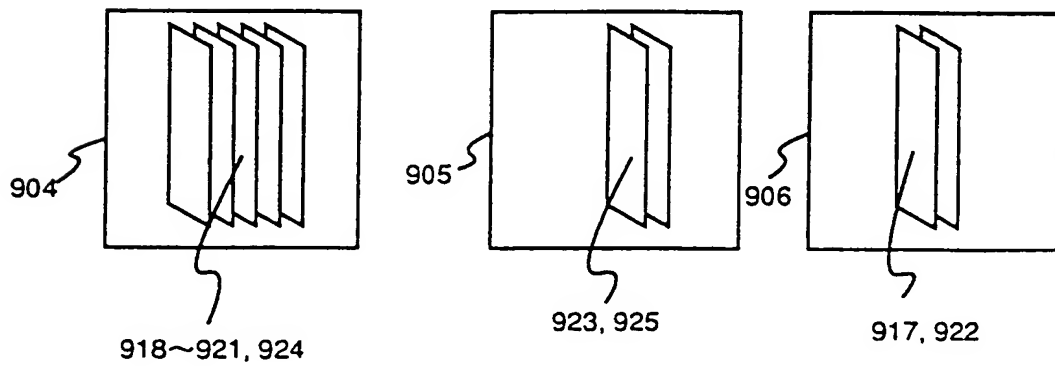


Fig. 50

